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## *Canadian Labour Relations*

*This is Volume 16 in the series of studies commissioned as part of the research program of the Royal Commission on the Economic Union and Development Prospects for Canada.*

*The studies contained in this volume reflect the views of their authors and do not imply endorsement by the Chairman or Commissioners.*



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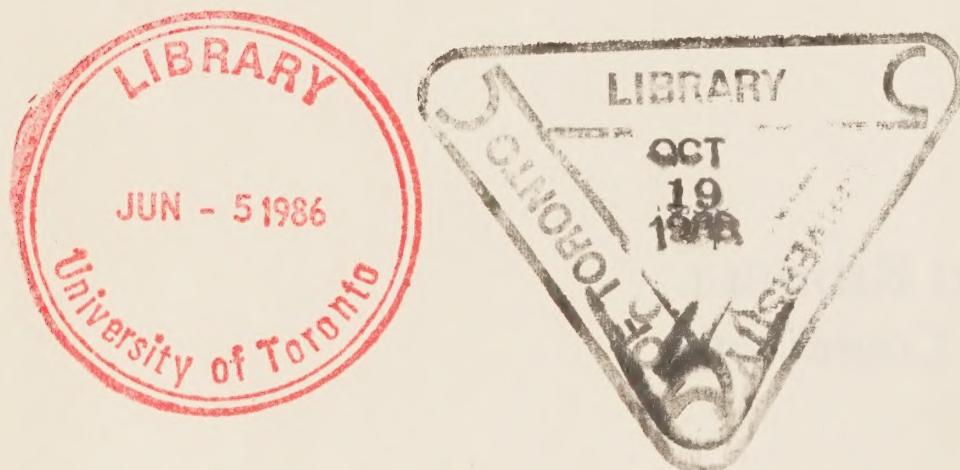
# Canadian Labour Relations

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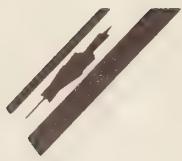
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## FOREWORD

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When the members of the Rowell-Sirois Commission began their collective task in 1937, very little was known about the evolution of the Canadian economy. What was known, moreover, had not been extensively analyzed by the slender cadre of social scientists of the day.

When we set out upon our task nearly 50 years later, we enjoyed a substantial advantage over our predecessors; we had a wealth of information. We inherited the work of scholars at universities across Canada and we had the benefit of the work of experts from private research institutes and publicly sponsored organizations such as the Ontario Economic Council and the Economic Council of Canada. Although there were still important gaps, our problem was not a shortage of information; it was to interrelate and integrate — to synthesize — the results of much of the information we already had.

The mandate of this Commission is unusually broad. It encompasses many of the fundamental policy issues expected to confront the people of Canada and their governments for the next several decades. The nature of the mandate also identified, in advance, the subject matter for much of the research and suggested the scope of enquiry and the need for vigorous efforts to interrelate and integrate the research disciplines. The resulting research program, therefore, is particularly noteworthy in three respects: along with original research studies, it includes survey papers which synthesize work already done in specialized fields; it avoids duplication of work which, in the judgment of the Canadian research community, has already been well done; and, considered as a whole, it is the most thorough examination of the Canadian economic, political and legal systems ever undertaken by an independent agency.

The Commission's research program was carried out under the joint

direction of three prominent and highly respected Canadian scholars: Dr. Ivan Bernier (*Law and Constitutional Issues*), Dr. Alan Cairns (*Politics and Institutions of Government*) and Dr. David C. Smith (*Economics*).

Dr. Ivan Bernier is Dean of the Faculty of Law at Laval University. Dr. Alan Cairns is former Head of the Department of Political Science at the University of British Columbia and, prior to joining the Commission, was William Lyon Mackenzie King Visiting Professor of Canadian Studies at Harvard University. Dr. David C. Smith, former Head of the Department of Economics at Queen's University in Kingston, is now Principal of that University. When Dr. Smith assumed his new responsibilities at Queen's in September 1984, he was succeeded by Dr. Kenneth Norrie of the University of Alberta and John Sargent of the federal Department of Finance, who together acted as Co-directors of Research for the concluding phase of the Economics research program.

I am confident that the efforts of the Research Directors, research coordinators and authors whose work appears in this and other volumes, have provided the community of Canadian scholars and policy makers with a series of publications that will continue to be of value for many years to come. And I hope that the value of the research program to Canadian scholarship will be enhanced by the fact that Commission research is being made available to interested readers in both English and French.

I extend my personal thanks, and that of my fellow Commissioners, to the Research Directors and those immediately associated with them in the Commission's research program. I also want to thank the members of the many research advisory groups whose counsel contributed so substantially to this undertaking.

DONALD S. MACDONALD

## INTRODUCTION

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At its most general level, the Royal Commission's research program has examined how the Canadian political economy can better adapt to change. As a basis of enquiry, this question reflects our belief that the future will always take us partly by surprise. Our political, legal and economic institutions should therefore be flexible enough to accommodate surprises and yet solid enough to ensure that they help us meet our future goals. This theme of an adaptive political economy led us to explore the interdependencies between political, legal and economic systems and drew our research efforts in an interdisciplinary direction.

The sheer magnitude of the research output (more than 280 separate studies in 70+ volumes) as well as its disciplinary and ideological diversity have, however, made complete integration impossible and, we have concluded, undesirable. The research output as a whole brings varying perspectives and methodologies to the study of common problems and we therefore urge readers to look beyond their particular field of interest and to explore topics across disciplines.

The three research areas, — *Law and Constitutional Issues*, under Ivan Bernier; *Politics and Institutions of Government*, under Alan Cairns; and *Economics*, under David C. Smith (co-directed with Kenneth Norrie and John Sargent for the concluding phase of the research program) — were further divided into 19 sections headed by research coordinators.

The area *Law and Constitutional Issues* has been organized into five major sections headed by the research coordinators identified below.

- Law, Society and the Economy — *Ivan Bernier and Andrée Lajoie*
- The International Legal Environment — *John J. Quinn*
- The Canadian Economic Union — *Mark Krasnick*

- Harmonization of Laws in Canada — *Ronald C.C. Cumming*
- Institutional and Constitutional Arrangements — *Clare F. Beckton and A. Wayne MacKay*

Since law in its numerous manifestations is the most fundamental means of implementing state policy, it was necessary to investigate how and when law could be mobilized most effectively to address the problems raised by the Commission's mandate. Adopting a broad perspective, researchers examined Canada's legal system from the standpoint of how law evolves as a result of social, economic and political changes and how, in turn, law brings about changes in our social, economic and political conduct.

Within *Politics and Institutions of Government*, research has been organized into seven major sections.

- Canada and the International Political Economy — *Denis Stairs and Gilbert Winham*
- State and Society in the Modern Era — *Keith Banting*
- Constitutionalism, Citizenship and Society — *Alan Cairns and Cynthia Williams*
- The Politics of Canadian Federalism — *Richard Simeon*
- Representative Institutions — *Peter Aucoin*
- The Politics of Economic Policy — *G. Bruce Doern*
- Industrial Policy — *André Blais*

This area examines a number of developments which have led Canadians to question their ability to govern themselves wisely and effectively. Many of these developments are not unique to Canada and a number of comparative studies canvass and assess how others have coped with similar problems. Within the context of the Canadian heritage of parliamentary government, federalism, a mixed economy, and a bilingual and multicultural society, the research also explores ways of rearranging the relationships of power and influence among institutions to restore and enhance the fundamental democratic principles of representativeness, responsiveness and accountability.

*Economics* research was organized into seven major sections.

- Macroeconomics — *John Sargent*
- Federalism and the Economic Union — *Kenneth Norrie*
- Industrial Structure — *Donald G. McFetridge*
- International Trade — *John Whalley*
- Income Distribution and Economic Security — *François Vaillancourt*
- Labour Markets and Labour Relations — *Craig Riddell*
- Economic Ideas and Social Issues — *David Laidler*

Economics research examines the allocation of Canada's human and other resources, the ways in which institutions and policies affect this

allocation, and the distribution of the gains from their use. It also considers the nature of economic development, the forces that shape our regional and industrial structure, and our economic interdependence with other countries. The thrust of the research in economics is to increase our comprehension of what determines our economic potential and how instruments of economic policy may move us closer to our future goals.

One section from each of the three research areas — The Canadian Economic Union, The Politics of Canadian Federalism, and Federalism and the Economic Union — have been blended into one unified research effort. Consequently, the volumes on Federalism and the Economic Union as well as the volume on The North are the results of an interdisciplinary research effort.

We owe a special debt to the research coordinators. Not only did they organize, assemble and analyze the many research studies and combine their major findings in overviews, but they also made substantial contributions to the Final Report. We wish to thank them for their performance, often under heavy pressure.

Unfortunately, space does not permit us to thank all members of the Commission staff individually. However, we are particularly grateful to the Chairman, The Hon. Donald S. Macdonald; the Commission's Executive Director, J. Gerald Godsoe; and the Director of Policy, Alan Nymark, all of whom were closely involved with the Research Program and played key roles in the contribution of Research to the Final Report. We wish to express our appreciation to the Commission's Administrative Advisor, Harry Stewart, for his guidance and advice, and to the Director of Publishing, Ed Matheson, who managed the research publication process. A special thanks to Jamie Benidickson, Policy Coordinator and Special Assistant to the Chairman, who played a valuable liaison role between Research and the Chairman and Commissioners. We are also grateful to our office administrator, Donna Stebbing, and to our secretarial staff, Monique Carpentier, Barbara Cowtan, Tina DeLuca, Françoise Guilbault and Marilyn Sheldon.

Finally, a well deserved thank you to our closest assistants: Jacques J.M. Shore, *Law and Constitutional Issues*; Cynthia Williams and her successor Karen Jackson, *Politics and Institutions of Government*; and I. Lilla Connidis, *Economics*. We appreciate not only their individual contribution to each research area, but also their cooperative contribution to the research program and the Commission.

IVAN BERNIER  
ALAN CAIRNS  
DAVID C. SMITH





Volumes 15 to 18 of the collected research studies represent the product of the Commission's research program in labour markets and labour relations. The primary objective of these 22 papers is to assess the state of knowledge relating to key aspects of labour market and labour relations behaviour and to examine the policy implications of this knowledge.

A wide range of topics was addressed in the labour research program, a reflection of the Commission's extraordinarily broad mandate and the importance of labour-related issues to economic and social performance. In addition, the research program was influenced by an advisory group from the disciplines of economics, industrial relations and labour law. Given the broad scope of the labour issues and the integrated and cross-disciplinary approach taken, the division of the research papers into four separate volumes is as unfortunate as it is inevitable. Although the division chosen is a fairly natural one, some issues receive only brief attention here because they are covered more thoroughly elsewhere.

This volume deals with the key aspects of labour relations behaviour and performance, in particular the growth of unions and collective bargaining, the structure of collective bargaining, strikes and lockouts, public sector wage behaviour, and workplace health and safety. A large number of policy issues are examined, including the fundamental and controversial question of public policy toward unions and collective bargaining.

Most closely related to the papers in this volume are those in *Labour-Management Cooperation in Canada*, volume 15 of the research studies, which examines the potential role of innovative and non-adversarial approaches to labour-management relations in Canada. Also relevant are the two volumes on labour market behaviour. *Work and Pay: The*

*Canadian Labour Market*, volume 17 of the research studies, examines aspects of labour market behaviour and performance, including employment and unemployment, labour force participation, the amount of time spent working by those in the labour force, and equal pay and equal opportunity in the labour market. *Adapting to Change: Labour Market Adjustment in Canada*, volume 18 of the research studies, deals with labour market adjustment to change, including the impact of economic and technological change, education and training, and regional labour mobility.

The reader of this volume will also find useful a number of papers which appear elsewhere in the Commission's research, particularly Joseph M. Weiler's "The Role of Law in Labour Relations" and Fernand Morin's "The Use of Legislation to Control Labour Relations: The Quebec Experience," both in *Labour Law and Urban Law in Canada*, volume 51 of the research studies. In addition, several chapters of W. Craig Riddell's *Dealing with Inflation and Unemployment in Canada*, volume 25 of the research studies, are relevant.

W. CRAIG RIDDELL

## ACKNOWLEDGMENTS

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Many people contributed to the Commission's research program in labour markets and labour relations and their assistance is gratefully acknowledged. The members of the labour research advisory group — Jean-Michel Cousineau (Université de Montréal), David Dodge (Department of Finance), James Frank (Conference Board of Canada), Morley Gunderson (University of Toronto), Robert Jenness (Economic Council of Canada), Stephan Kaliski (Queen's University), Thomas Kochan (Massachusetts Institute of Technology), Pradeep Kumar (Queen's University), Robert Lacroix (Université de Montréal), Glenn MacDonald (University of Western Ontario), Keith Newton (Economic Council of Canada), Ray Protti (Labour Canada), Frank Reid (University of Toronto), John Vanderkamp (University of Guelph) and Paul Weiler (Harvard University) — provided valuable advice on the labour research program and commented usefully on various drafts of the papers. Mark Thompson and Joseph Weiler, colleagues at the University of British Columbia, also provided useful advice on aspects of the labour relations research. Garfield Clack (Labour Canada) responded helpfully to requests for data and information.

I also wish to acknowledge the assistance received from members of the Commission's research staff, especially Dr. Lilla Connidis, Barbara Cowtan, Caroline Digby, Rod Hill, Joyce Martin and Donna Stebbing. David C. Smith, Director of Research (Economics), provided valuable advice and encouragement, as did fellow research coordinators, especially John Sargent. Beth Ediger and Rosemary Shipton skilfully edited the papers.

I particularly want to thank my wife Rosemarie and son Chris for their support and patience.

W.C.R.





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# Canadian Labour Relations: *An Overview*

W. CRAIG RIDDELL

The subject of this volume, Canadian labour relations, is clearly an important one. Labour-management relations have a significant effect on both the overall level of well-being in our society, and the distribution of that well-being among members of society. Collective bargaining and personnel policies help determine the income, employment and working conditions of many Canadians. These processes also influence the costs of producing various goods and services and thus the purchasing power of consumers. The living standards of Canadians, both those in and those outside the labour force, are thus affected in a significant way by labour relations.

Labour-management relations are also controversial. In recent years issues such as workplace health and safety, the amount of strike and lockout activity, public sector compensation, the right to strike in certain public services, and arbitration and alternative forms of dispute resolution have often been at the forefront of policy debates. In addition, attention has occasionally centred on such fundamental questions as the role of unions and collective bargaining in Canada's economy, and in society more generally.

Many of these issues are examined in this volume. In addition to contributing to these policy debates, the book describes the current understanding of the forces which have shaped the Canadian industrial relations system and have influenced the performance of that system. The growth of unions and collective bargaining in the postwar period and prospects for the future are examined in Pradeep Kumar's paper. Robert Davies's paper describes the factors which influence the structure of collective bargaining in Canada, and assesses the probable consequences of policies designed to encourage more centralized forms of

collective bargaining. The remaining papers cover aspects of labour relations performance — what some refer to as the “outputs” of the industrial relations system. Public sector wage behaviour is the subject of David Wilton’s paper. Robert Lacroix’s essay examines collective bargaining disputes — their causes, consequences and cures. The paper by Caroline Digby and Craig Riddell examines occupational health and safety in Canada. This overview paper attempts to provide a summary and synthesis of the individual essays, to fill gaps when these occur, and to relate the contributions in this volume to those appearing elsewhere in the Commission’s research.

Labour relations are not only important and controversial, they are complex. For this reason, a thorough examination of the Canadian industrial relations system would require several volumes. Although a wide range of issues was addressed by the labour research program, some topics necessarily receive little attention here. This volume covers several key aspects of labour relations which were felt to be important to a Commission with an extraordinarily broad mandate and a long-run focus. Closely related is the companion volume, Riddell (1985a), which examines innovative and non-adversarial approaches to labour-management interaction, human resource development and the organization of work — issues such as preventive mediation, employee involvement, quality of working life programs, and various forms of consultation, both that between employers and employees or their representatives and that among business, labour and government on economic and social policy. Inevitably there is some overlap between these two volumes, and this will be pointed out when it occurs. Also closely related are the companion volumes on labour market behaviour (Riddell 1985b, 1985c). Many of the phenomena analyzed there — such as the changing demographic structure of the labour force, the rise in unemployment, the dramatic growth in female labour force participation, labour market adjustment to technological and economic change, and training and skill development — have important implications for labour-management relations and vice versa. Because of this interdependence, the key linkages will be noted in this overview paper.

The organization of this paper is as follows. The next section briefly reviews some of the salient developments in Canadian labour relations in the postwar period. This review provides a useful general background for the more detailed analysis which follows. The following two sections examine the growth of unions and collective bargaining in the past four decades, future prospects for union growth, and the evolution of the legal framework within which unionization and collective bargaining take place. The next four sections discuss key aspects of labour relations structure, behaviour and performance: public sector wage behaviour, strikes and lockouts and alternative forms of dispute resolution, the structure of collective bargaining, and workplace health and safety. The

final substantive section examines the role that unions and collective bargaining play in Canada, and how that role might be enhanced. A brief concluding section summarizes the main themes which emerge from this overview paper and the remaining papers in this book.

## **Labour Relations Developments in the Postwar Period**

Several major developments occurred in Canadian labour relations in the post-World War II period. These issues are briefly summarized in this section, and then described and analyzed in more detail subsequently.

The main trends and changes include the following: rapid growth of unionization in the public sector and steady although slower growth in the private sector; establishment of a legal framework generally supportive of collective bargaining as the mechanism for determining wages and working conditions; the rise in strike and lockout activity since the mid-1960s relative to earlier periods and other countries; the growth in the importance of arbitration and other forms of dispute resolution; increased intervention by governments in the wage determination process; the broader scope of collective agreements and the concomitant increased complexity of collective bargaining; and greater concern about and public policy initiatives relating to workplace health and safety.

A salient characteristic of the postwar period was the establishment by the federal and provincial governments of a legal framework which generally encouraged union formation. In most jurisdictions this development began in the 1940s with respect to the private sector and in the mid-1960s with respect to the public sector.

In part reflecting this broadly supportive legislative environment, the importance of collective bargaining in Canada's economy grew substantially. Employment and the labour force grew rapidly, especially during the decades of the 1960s and 1970s. The growth in union membership was even more rapid, so that the proportion of the labour force belonging to unions, as well as that covered by collective agreements, rose substantially. Much of the growth in unions and collective bargaining was in the public sector — including public administration, education, health and related services — which was also an area of rapid employment growth.

The rapid growth of collective bargaining in the public sector, a development which began in earnest in the mid-1960s, has led to considerable controversy. Issues such as which public sector employees should have the right to strike, how wages and working conditions should be determined for those denied this right, what relationship does and should exist between private and public sector compensation, and what criteria arbitrators should employ when fashioning their awards have been frequent subjects of debate.

The period since the mid-1960s has been characterized by several

other important developments. Although there have been important achievements — for example, rapid employment growth — economic performance has been poor, at least by the standards of the first two decades of the postwar era. The recent period has experienced high and variable inflation, rising average unemployment rates, and declining productivity and real income growth. There have also been signs of poor performance in labour-management relations. Since the mid-1960s strike and lockout activity in Canada has been high by both historical and international standards. Another sign of poor performance comes from the behaviour of governments, which have increasingly intervened in the collective bargaining process. The wage controls of the 1975–78 Anti-Inflation Program and the more recent federal “6-and-5” and related provincial wage control programs affecting public sector employees are the clearest evidence of this trend. There has also been increased intervention, often in the form of back-to-work legislation, in specific disputes in both the private and public sectors. In addition to ad hoc intervention, governments have experimented with labour legislation in an attempt to improve performance. For example, experiments with centralized bargaining structures have taken place in British Columbia and Quebec, and in the construction industry in several jurisdictions.

Many of these developments are interrelated. In combination, they yield a somewhat mixed picture. Although there were important achievements in the postwar era, difficulties were also evident, particularly in the last two decades. The extent to which the industrial relations system was responsible for these difficulties, as opposed to being merely the mechanism through which these problems were manifested, is an issue which arises several times in this paper.

At present, labour-management relations face important challenges. The severe recession of 1982–83 and the slow recovery to date have forced major adjustments in wage settlements and in the provisions of collective agreements. Important differences remain between business and labour regarding appropriate policies to deal with the current high levels of unemployment, and what weight to give to unemployment versus other policy concerns such as inflationary pressures and the deficit. For these reasons, the atmosphere within which collective bargaining takes place is likely to remain tense.

Other pressures result from structural rather than cyclical forces. The increasingly competitive external environment for tradeable goods has increased employee concerns about job security and employer concern about product market competitiveness. Technological innovations such as those associated with microprocessors and microcomputers, information and data-handling systems, robotics and automated production processes, and telecommunications are predicted to transform the nature of many workplaces. Although there is considerable uncertainty as to how quickly these changes will occur, adapting to them clearly is a major challenge for labour-management relations.

The performance of the economy and of labour relations over the past two decades, together with the pressures for adjustment arising from the current situation, have placed issues relating to labour-management relations at the top of the agenda. In order to determine what contribution the industrial relations system can make to future prosperity, we turn to a detailed examination of its evolution and performance.

## Unionization and Collective Bargaining

The period since 1945 has seen significant growth in the extent and importance of collective bargaining in Canada. Union membership as a proportion of non-agricultural paid workers has increased from about 25 percent in 1945 to about 40 percent in 1983. By way of contrast, in the United States the proportion of non-agricultural paid workers unionized declined from about 35 percent in 1945 to below 20 percent in 1983.<sup>1</sup>

The most common measure of the extent of collective bargaining in the economy is union membership as a fraction of non-agricultural paid workers. This measure of union density generally understates the impact of union organization, for not all workers covered by collective agreements are union members. (Canadian labour legislation provides that, once certified, the union is the exclusive bargaining representative for all employees in the bargaining unit, whether or not they are union members.) Unfortunately, existing data do not provide comparable statistics on collective bargaining coverage.<sup>2</sup> A recent study by Adams (1984) estimates that in 1977 about 86 percent of employees covered by collective agreements were union members. Applying this estimate suggests that in 1983 about 46–47 percent of non-agricultural paid workers were covered by collective agreements.<sup>3</sup>

A variety of measures of union density are used, depending on whether union membership (or collective bargaining coverage) is expressed as a proportion of the civilian labour force, non-agricultural paid workers (used because unionization is uncommon or not permitted for the self-employed or in agriculture in most jurisdictions), or non-agricultural paid workers who are “legally eligible” to unionize (which also excludes those engaged in managerial, administrative and religious occupations). For 1983 these proportions were 30.6, 40.0 and 44.6, respectively. The various series move closely together, and all show substantial growth in the period since 1945.

The increased importance of collective bargaining in Canada in the postwar years reflects several forces. Most significant is the substantial increase in unionization in the public and quasi-public sectors, sectors in which there was also substantial growth in employment.<sup>4</sup> In addition, there has been steady but much slower growth in unionization in the private sector.

The overall degree of unionization depends on both the union density in each sector or industry and the share of the sector in total employ-

ment. Changes in the industrial composition of employment in the postwar period have tended to reduce overall union density. In particular, sectors with a high propensity for unionization (manufacturing, construction, mining and transportation, communication and utilities) have had declining employment shares while sectors with a low degree of unionization (trade, finance, insurance and service) have increased their share of employment (see Meltz, 1985). Offsetting this trend is the tendency for union density to increase or remain constant in most sectors.<sup>5</sup>

Legal changes have played an important part in the growth of unionization. In general terms, the law with respect to collective bargaining in Canada has passed through three main phases.<sup>6</sup> In the first phase, the period mostly prior to Confederation, the law discouraged collective bargaining. Judges interpreted the common law to hold that collective action by employees constituted a criminal conspiracy. There were other criminal and civil constraints on both individual and group action by workers. In the second phase, which began in the 1870s, the law was "neutral" with respect to collective bargaining. In particular, the Trade Unions Act of 1872, amendments to criminal law, and other legislative actions removed many of the restrictions on union formation and the collective withdrawal of labour. This neutral stance lasted in Canada until the enactment in 1944 of the National War Labour Order, Order-in-Council P.C. 1003, after which labour law facilitated union formation and, in turn, encouraged the spread of collective bargaining.<sup>7</sup> P.C. 1003, which was partly modelled on the National Labor Relations Act (the Wagner Act) of 1935 in the United States, provided most private sector employees with the right to union representation and collective bargaining, established certification procedures, provided a code of unfair labour practices primarily intended to prevent employers from interfering with employees' right to union representation, and established a labour relations board to administer the law. Thus, in the post-World War II period, legislation encouraged collective bargaining.<sup>8</sup>

These three phases in the history of collective bargaining applied primarily to the private sector. With the passage of the Public Service Staff Relations Act (PSSRA) in 1967 at the federal level and similar acts at provincial levels, governments encouraged collective bargaining and union formation in the public sector, which was also an area of rapid growth in employment.

The Canadian labour relations policy which emerged in the 1940s had the following central features (Weiler, 1985a):

- workers who met the statutory definition of employee had the right to join and form unions;
- collective bargaining rights were protected under unfair labour practices legislation, which prohibited acts by both employers and unions

to discourage or interfere with the employees' prerogative to bargain collectively;

- a system of defining appropriate bargaining units and certifying bargaining representatives was established;
- once certified, the union became the exclusive bargaining representative of all employees in the bargaining unit;
- unions and employers were required to bargain in good faith;
- rights and obligations were administered and enforced usually by a labour relations board, but in some cases in court.

This Wagner Act framework was combined with the traditional Canadian labour policy, expressed in the Industrial Disputes Investigation Act of 1907 and subsequent legislation, of regulating the use of work stoppages. These features included:

- compulsory postponement of strikes and lockouts, coupled with compulsory mediation and/or conciliation procedures;
- prohibition of strikes or lockouts during the term of the collective agreement coupled with a requirement that each collective agreement provide some alternative means for the resolution of disputes concerning the interpretation and application of the agreement;
- while the content of the collective agreement was left largely to the parties, Ottawa and the provinces increasingly began to require certain items to be included in collective agreements, such as a recognition clause, a no-strike/no-lockout clause, a clause providing for a peaceful mechanism to resolve disputes arising during the term of the agreement, and provision for a date of termination of the agreement.

The *intent* (as opposed to the *effect*) of P.C. 1003 was not necessarily to foster the growth of unions. No doubt, this was the intent of some supporters, but the primary objective seems to have been to secure industrial peace and therefore continued war production. Indeed, most of the important changes in labour legislation seem to have had this motivation:

The dominant theme in motivating the policy makers to fashion this legal system was to secure industrial peace. Each of the incremental steps along the road to the Canadian collective bargaining system which emerged in the 1940s was in response to some sort of industrial crisis, usually a strike. In each case, the public interest in continued production and the absence of economic conflict prompted the legislatures to adopt the policy of collective bargaining as a road to industrial peace (Weiler, 1985a).

Whatever the intent of P.C. 1003, most provinces adopted these Wagner Act-type provisions following World War II. Furthermore, in most jurisdictions there have been additional legislative changes which generally facilitated union organization. The extension of collective bargaining rights to employees in the public sector is the most obvious example.

Others include the broadening of the definition of “employee,” thus making more workers eligible for unionization; numerous changes to the certification process, such as reducing the minimum level of membership support required for certification, which have facilitated union organization; increased restrictions on the termination or transfer of bargaining rights; increased prohibition of and expanded remedies for unfair labour practices; and changes such as compulsory dues checkoff, imposition of first contract, and stricter enforcement of the requirement to bargain in good faith which have helped unions, once certified, to maintain their position (Kumar, 1985). While it could perhaps be argued that many of these legislative changes were intended to prevent or reduce industrial disputes, there seems little doubt that the purpose of postwar labour law reform was also to encourage the spread of collective bargaining.<sup>9</sup>

The response to this favourable legislative environment has been dramatic. Kumar (1985, Table 2-4) compares growth rates for union membership and union density in seven countries (Australia, Canada, Japan, Sweden, United Kingdom, United States, and West Germany) over the 1961–81 period. Canada had the highest growth rate of these seven countries, and had moved ahead of Japan and the United States in the ranking of countries by union density by the end of the period. (In 1961, Canada was at the bottom of this ranking.) There were also significant changes in the organization and structure of organized labour, as described in Kumar’s paper and briefly summarized here. Undoubtedly the most significant development was the growth in unionization in the public sector and thus the extension of collective bargaining beyond its traditional blue-collar, industrial focus to white-collar workers, many employed in service industries. The unionization of these employees has in turn had several effects. The relative importance of international unions has declined dramatically, from representing about 70 percent of union members in 1948 to 41 percent in 1983. The main reason for this trend is the growth in public sector unions. Because these unions are predominantly national, their rapid growth has resulted in a decrease in the proportion of union members who belong to international unions. In addition, there has been a trend toward “Canadianization” and greater autonomy among Canadian sections within internationals. A recent dramatic example is the separation of the Canadian section of the United Automobile Workers from the international union. The average size of unions has also increased considerably, a result of both the growth of large public sector unions and the high level of merger activity in the past two decades.

This dramatic union growth in Canada relative to other countries is an important development. The Canada–U.S. difference is especially striking, and is worth further examination. Union growth patterns in Canada and the United States were similar from the 1920s to the 1960s, but they

have diverged sharply since 1965 (see Kumar, 1985, Figure 2-1). A full assessment of the reasons for this divergence would require a detailed study, but we note here what appear to be the key factors.

In both countries the main source of union growth since the 1960s has been the public sector. The chief difference has been that private sector unionism has declined in the United States, but grown in Canada. Indeed, Kumar points out that growth rates in the chief U.S. public sector unions were higher than those of their Canadian counterparts, while growth rates in the main private sector unions were significantly higher in Canada. An examination of union density by industry over the 1966-80 period shows that in the United States, unlike Canada, unionization fell significantly in mining, manufacturing, construction, and transportation, communications and utilities (Meltz, 1985, Table 1). An explanation of Canada-U.S. differences has to account for these trends in the private sector. In both countries the changing industrial composition of employment (in particular, the decline in the proportion of the labour force employed in manufacturing and the rise in the proportion employed in trade, finance and services) has tended to reduce unionization. However, because the compositional changes have been similar in the two countries, this factor cannot account for the divergence.

Several studies also indicate that less than half of the decline in unionization in the United States can be explained by sectoral and demographic shifts. Farber (1985), for example, finds that the combination of industrial (out of manufacturing), regional (toward the south), occupational (from blue-collar to white-collar) and sexual (toward females) shifts in the composition of the labour force can account for at most 40 percent of the decline in unionization over the period 1956-78. Thus, factors other than these simple "accounting" explanations based on compositional changes are at work.

Two factors which appear to have played an important part in the divergence in Canada-U.S. private sector union growth since the mid-1960s are the differences in laws and in their administration with respect to union certification and the duty to bargain collectively in good faith. With respect to certification, the U.S. system requires an election some time, usually about two months, after application for union certification has been made, whereas certification is automatic in most Canadian jurisdictions once a certain percentage of the employees have signed cards indicating their desire for union representation. When a vote is required, as in Nova Scotia and British Columbia, the time lag between application and vote is very brief. Unions lose many of these elections in the United States and the proportion lost has been steadily increasing in the postwar period.<sup>10</sup> The anti-union stance taken by U.S. employers in these elections has been growing, as evidenced by the dramatic rise in unfair labour practices against employers (Weiler, 1983; Freeman, 1985). A number of studies have examined the effect of

employer opposition, particularly illegal campaign tactics such as the firing of union supporters during representation campaigns, on the outcome of these elections. These studies generally show that employer opposition, both legal and illegal, has a significant impact on the election outcome (Freeman, 1985). In administration of the law, the U.S. National Labor Relations Board, compared to Canadian labour relations boards, has little clout against violations of the requirement to bargain in good faith. Many employers have therefore extended their anti-union stand beyond the certification process to the negotiation of the first contract, with the result that less than 80 percent of certified unions are successful in negotiating a first contract with the employer (Weiler, 1984; Cooke, 1985). There is some indication that the union success rate in negotiating a first contract has fallen over time (Weiler, 1984, Table I), though the data are not strictly comparable.

While the divergent trends in unionization in Canada and the United States result from many factors, the legal environment and its impact on employer behaviour appears to have played a significant role.<sup>11</sup> This suggests that the future of unions and collective bargaining is considerably more secure in Canada than the United States, unless, of course, there are major changes in the legal regime.<sup>12</sup>

Econometric studies of union growth support the claim that changes in the legislative environment have had a significant impact on union growth. Kumar provides a detailed discussion of Canadian research. The recent studies by Abbott (1982a) and Kumar and Dow (1983), the most sophisticated yet carried out in Canada, conclude that the passage of P.C. 1003 in 1944 and the PSSRA and related provincial acts in the mid-1960s to early 1970s had significant positive effects on union growth. There are no studies which attempt to test for the impact of the other changes in labour legislation and administrative procedures mentioned above (changes in certification and decertification procedures, expanded remedies for unfair law practices, and so forth). However, the much higher success rate of union certification efforts in Canada compared to the United States strongly suggests that these factors have also had a significant impact. As Weiler (1983) concluded, “the overall similarity between the Canadian and American industrial relations systems renders the differences between the results of the two certification models especially striking” (p. 1819).

What are the future prospects for union growth? Kumar (1985) discusses the various factors which will combine to answer this question:

- overall macroeconomic prospects, in particular the rate of growth in employment and real income;
- changes in the occupational, industrial and demographic structure of the labour force and employment;
- changes in technology and the international economic environment;

- public sector restraint; and
- possible changes in the legal environment.

Most medium-term economic projections call for a prolonged period of slow but steady growth in output and employment, and thus a very gradual return to an economy operating at its potential output and thus normal levels of employment.<sup>13</sup> Although the rate of growth of the source population (the population of labour-force age, 15 years and older) is predicted to slow considerably, employment growth is also expected to be slow and the unemployment rate to remain high. Furthermore, rates of productivity and real income growth are expected to be positive but small, though there is even more uncertainty about these productivity growth projections than the others.

If these forecasts turn out to be approximately accurate, the economic environment will be a difficult one for all workers, both union and non-union. Because non-union wages appear to be more flexible downward than union wages, employment growth in the union sector may well be slower than in the economy as a whole. The union/non-union wage differential tends to be largest in periods of slow growth and high unemployment, enabling non-union firms to grow at the expense of union firms.<sup>14</sup> This phenomenon has been seen most vividly in the depressed construction industry in western Canada in recent years.

Probably much more important than the rate of growth of the economy as a whole, at least for union density, are the various sectoral shifts that are expected to occur in the future. Several of these shifts are continuations of past trends. In particular, employment is expected to grow more slowly in manufacturing, mining and forestry than in the economy as a whole, while the share of employment in trade, finance and services is predicted to continue to rise. Similarly, growth in employment of women and part-time workers is expected to be above the economy-wide average. Unless there are gains in union organization in individual sectors, these changes in the composition of employment will lead to a decline in union density in the economy as a whole. Further, the main source of growth of the past two decades — the public sector — is no longer expected to play this role because continued restraint is expected in government spending over the medium term and because unionization is now virtually complete in this sector.

The possible changes in the legislative environment are even more hazardous to predict. We have seen how, in the postwar period, Canadian policy makers created a legislative environment generally favourable to the formation and continued existence of unions and collective bargaining. Of course, we can debate whether this legislative environment is too favourable or not favourable enough, a difficult and controversial issue which is taken up later in this paper. However, we cannot dispute the claim that the environment is considerably more favourable

than that in the United States, the most obvious comparison to be made. The issue here is what legislative changes are likely in the future. There is concern in the organized labour movement, and among supporters of unions and collective bargaining, that the legislative framework has begun to change in a manner that is unfavourable to unions. This concern is not without some foundation. Those, such as Panitch and Swartz (1984), who would argue that a major retreat is under way from the relatively unrestrained collective bargaining framework built up over much of the period since the 1940s would point mainly to the restrictions on public sector bargaining introduced in the early 1980s. In addition, there appears to have been a shift to a somewhat more conservative outlook in Canada, as indicated by the policy orientations of the major political parties at both federal and provincial levels (though with some exceptions). Finally, there have been legislative changes with respect to the private sector, such as the 1984 amendments to the British Columbia Labour Code, which have been opposed by organized labour.

However, there are also strong arguments in the other direction. There does not appear to be substantial political support or pressure for major changes in the generally favourable legislative environment built up over the past four decades. (Public sector labour legislation is a possible exception, and is discussed in the fifth section of this overview.) Even the British Columbia Social Credit government, which is known to be less than sympathetic to organized labour, made only minor changes in 1984 to the British Columbia Labour Code, a labour code generally viewed as one of the most progressive in the country.<sup>15</sup> Furthermore, the direction of legislative reform in other jurisdictions (e.g., Ontario and the federal jurisdiction) continues to be generally favourable to organized labour.

Examination of the attitudes of Canadians toward unions is worthwhile, both for interest's sake and because policy makers may well be influenced by public opinion in making any changes to labour legislation. According to the Decima Quarterly Report, Canadians consistently expressed less confidence in the leaders of labour unions than those of any other institution when asked to rate their confidence in the leaders of twenty institutions (including banks, schools, provincial governments, oil companies, federal government, multinational corporations, newspapers, and the tobacco industry).<sup>16</sup> Even in union families, confidence in labour unions is low, although not as low as in non-union families. In response to a recent Decima question forcing respondents to choose between the statements "unions in Canada have become too powerful" and "unions are necessary in Canada to protect workers from exploitation," over 55 percent of respondents chose "too powerful" and 45 percent "necessary." Another recent Decima question asked respondents whether they favoured or opposed greater government control over labour union activity. More than 60 percent favoured more control;

even among union members a majority favoured increased government control over labour union activity.

There is some evidence which suggests that Canadians' attitude toward labour unions has become less favourable over time. The Gallup Poll has, since 1950, asked respondents whether they think labour unions are good or bad for Canada. In the 1950-58 period, between 12 and 20 percent answered "bad" and between 60 and 69 percent "good" (Canada, Department of Labour, 1983, pp. 32-33). (The rest gave a qualified answer or expressed no opinion.) However, in the 1976-82 period, between 30 and 42 percent answered "bad" and between 42 and 54 percent "good." The past two decades have been characterized by growing disenchantment with institutions in general (Johnston, 1985). The decline in positive views toward unions has, however, been particularly sharp.

The responses to these questions are, of course, open to a variety of interpretations. One is that the rise in public sector unions and industrial disputes has led to the apparent decline in favourable attitudes toward unions. Some support for this hypothesis is found by Johnston (1985, chap. 5). Another possibility is that unions are seen by the public as playing a role in the problems of inflation and unemployment, the dominant policy concerns since the 1960s. Krahn and Lowe (1984), in their study of attitudes toward unions among residents of Edmonton and Winnipeg, found substantial agreement with the statement "the high wage demands of unions contribute directly to inflation."

It is dangerous to draw firm conclusions from responses to a question asking for an overall positive or negative view of unions. In a U.S. study of attitudes toward unions, Kochan (1979) found that a substantial majority of respondents saw U.S. unions as being large, politically powerful, and unrepresentative institutions; that is, they had a largely negative view of unions and society. At the same time, the vast majority of respondents agreed that unions improve the wages and job security of their members and protect workers against unfair practices. The recent Canadian study by Krahn and Lowe found similar results. A majority of respondents agreed that unionized employees enjoy better wages and working conditions than non-union employees. A slightly larger proportion of respondents agreed with the statements "We need more laws to limit the power of unions," "Labour unions should be regulated to a greater extent by the government," "Unions impose too many restrictions on employers," and the above statement linking union wage demands to inflation.

One interpretation of these attitude survey results is that the public views unions as effective in promoting their members' private interests, but as being institutions with largely negative consequences for society as a whole. However, other interpretations could also possibly be drawn from the responses to these questions.

In summary, attitude surveys indicate that unions are unpopular and have become less popular over time. There is strong support for “greater government control” over unions. What respondents mean by this is less clear. A majority oppose the right to strike in the public sector, but favour the right to strike in general (Johnston, 1985, Tables V-23 and V-24). Furthermore, the 1979 Quality of Work Life study found strong support for a prohibition on management hiring replacements for striking workers (Johnston, Table V-25), which contradicts the hypothesis that Canadians favour, at least in a general way, increased restrictions on union power. The largely negative view of unions that dominates responses to general questions tends to break down when questions become more specific.

How do all of these considerations add up with respect to future prospects for unions and collective bargaining? Emphasizing again the considerable uncertainty associated with any response, it appears that major changes in the legislative environment adversely affecting private sector unionization are unlikely. The public sector case is more uncertain, and is discussed in a later section. However, even with the current legislative environment, organized labour faces difficult challenges. Unless unions succeed in sectors such as finance and retail trade which have proven difficult to organize in the past, prospects for further increases in union density appear poor.

This section has described key aspects of the growth and development of unions and collective bargaining over the past several decades. In addition, I have attempted to assess and summarize what is known about the causes of these trends and changes, and have in the process sketched the evolution of policy with respect to collective bargaining. Finally, some speculation on what the future holds for organized labour was offered, albeit with the humility with which all such forecasts should be accompanied. However, one fundamental issue was not discussed: What *should* public policy toward unions and collective bargaining be? An answer to this difficult and controversial question is offered in the concluding section of this paper. Before dealing with that issue, I shall examine several less fundamental but nonetheless interesting and important issues.

## The Legal Framework for Collective Bargaining

The above crude division of the evolution of labour legislation into three main phases is useful, as such simplifications often are, but necessarily omits some important developments. Two of these developments are briefly discussed here, both because they are important for understanding the past and relevant to assessing the future. We shall first examine the evolution of the division of powers between the federal and provincial governments over labour relations.

Until 1925, jurisdiction over labour relations was presumed to rest primarily with the federal government. At that time the main law regulating labour relations was the (federal) Industrial Disputes Investigation Act of 1907, which made a strike or lockout illegal in certain important industries (transportation and communications, mines, public utilities) until after an inquiry had been conducted into the dispute and a conciliation board report had been forwarded to the minister and made public. The Snider Case (Toronto Electric Commissioners vs. Snider) of 1925 changed this presumed division of powers. The Judicial Committee of the British Privy Council decided that labour relations is in essence employment contract, and thus falls under property and civil rights and therefore under provincial jurisdiction.

Following this judgment, the federal government amended the Industrial Disputes Investigation Act to apply to all industries under federal jurisdiction. Since that time, this limited federal authority has been upheld.<sup>17</sup> During World War II the federal government exercised jurisdiction under emergency powers and, with the enactment of Order-in-Council P.C. 1003, fashioned a national labour policy. Following the war, most provinces (Quebec was the main exception) quickly adopted legislation similar to P.C. 1003. However, since the late 1960s provinces have experimented considerably with labour legislation and there is now a moderate amount of diversity in provincial labour codes.

The Snider Case had a profound effect. In part because of this division of authority, our collective bargaining structure is probably the most decentralized of any Western economy. The scope for a national policy toward labour relations is obviously limited. Less clear is whether this arrangement is a blessing or a curse. There are both costs and benefits, but little seems to be known about their magnitude.

On the benefits side of the ledger, this division of powers allows labour legislation to be tailored to the special circumstances of each province. In addition, it facilitates experimentation with alternative labour laws. Those that are found to be successful can be imitated by other provinces, while those that are not successful have been tried out on only a fraction of the population. The value of this experimentation has been stressed by Weiler (1980, p. 11):

Canada has a peculiarly decentralized federal system. I do not think that is an unmixed blessing. But there can be few better examples of its value than the efforts of our provinces (and, to be fair, of Ottawa within its limited jurisdiction) to play their classic federal role as laboratories for legal experimentation with our industrial relations ailments.

However, there are also costs. A company operating throughout the country may face eleven different sets of laws with respect to employment standards, collective bargaining procedures, minimum wages, equal pay and the like. In terms of limiting the scope for national

policies, the most obvious potential cost arises because the existing division of powers makes uncertain the use of incomes policies. In some circumstances, these policies may be a useful way to facilitate the transition from high to low inflation rates (Riddell, 1985d).

The second development we should examine is the movement from the courts to administrative tribunals as the forum for dealing with labour relations issues.<sup>18</sup> An important feature of P.C. 1003 and the postwar federal and provincial legislation replacing it was the creation of administrative tribunals, usually called labour relations boards, to oversee and enforce the legislation. The courts remained responsible for interpreting the law respecting strikes, lockouts and picketing, and exercised supervisory jurisdiction over the labour relations boards. During the postwar period, the courts' involvement in these two remaining areas was gradually eliminated. This removal reflected a desire on the part of policy makers to find practical and workable resolutions of conflicts between employers and employees. Individuals appointed to labour relations boards were drawn from the industrial relations community and were more sympathetic to the feelings of both sides in a dispute, as well as more aware of workable solutions. The courts, in contrast, have long been viewed by trade unionists as being biased in favour of employers and against collective bargaining. Further, by their very nature the courts are concerned less with achieving practical solutions to labour-management conflicts than with applying legal principles to the case before them. The experience to date with the British Columbia Labour Code, which went further than other Canadian jurisdictions in relieving the courts of responsibility for the regulation of strikes, lockouts and picketing, is reviewed by Weiler (1985a, section IV (i)). He concludes that this experiment has been largely successful.

Both these developments — the diversity in labour legislation across jurisdictions and the transfer of authority over industrial relations issues from the courts to administrative tribunals — are likely to be reversed somewhat, perhaps considerably, by the recent inclusion of the Charter of Rights and Freedoms in the Canadian Constitution. The implications of the Charter for labour relations are not yet clear. An adequate assessment of the probable implications would involve a considerable detour into labour law and the nature of the Charter of Rights and Freedoms. Here I will simply note what appear to be the salient aspects.

There are three features of the Charter which seem important for the nature and evolution of labour policy as embodied in the law. First, the Charter is a statement of *individual* rights and freedoms. It is unclear to what extent the Charter protects the rights of groups or associations.<sup>19</sup> Since unions represent the workers as a group, there is a potential conflict between the individual rights protected by the Charter and the *collective* rights and responsibilities given to unions in labour legislation. The principle of exclusive representation and various union security

provisions are two examples of this potential conflict. Second, Charter decisions apply throughout the country, although the appropriate legislature or Parliament may declare that a particular piece of legislation applies notwithstanding the provisions of the Charter. Since governments will probably be reluctant to rely on this provision frequently, Supreme Court decisions may well result in a more uniform labour policy. The ability of jurisdictions to experiment with labour relations reforms will not be lost, but will probably be constrained. Third, the policy of transferring power from the courts to administrative tribunals is reversed, at least for issues affected by the general provisions of the Charter. At present this range of issues appears quite broad.

There are obviously potential dangers here. Historically the courts have appeared to be more concerned with interpreting abstract legal concepts than with finding workable solutions to current labour relations conflicts or issues. Thus, in the context of Charter litigation, there is the danger that the courts may produce decisions which will be difficult for those involved in labour-management relations to accept. The issue of "rules versus discretion" arises here. The disadvantage of fixed rules, in this case "constitutionalizing" labour policy to some degree, is that the ability of that policy to adapt to changing circumstances is reduced, perhaps appreciably. At the same time, there is less incentive for the affected parties to devote resources to changing the legislation to their advantage; that is, less "rent seeking" behaviour. How these costs and benefits will turn out in this particular case is difficult to forecast.

## Public Sector Labour Relations

Legislation permitting collective bargaining by government employees first appeared in Saskatchewan in 1944, but the process of extending collective bargaining rights to public sector employees began in earnest with amendments to the Quebec labour code in 1964.<sup>20</sup> Three years later, in 1967, the federal government passed the Public Service Staff Relations Act (PSSRA), permitting employees of the federal government and its agencies to bargain collectively. This innovative legislation seems to have encouraged the remaining provinces to extend collective bargaining rights to their employees. At present, every Canadian jurisdiction grants collective bargaining rights to their public sector employees, but these rights range from the right to bargain collectively over a narrow range of issues without the right to strike to full collective bargaining including the right to strike. Public sector wage-restraint programs, which were initiated in 1982, and which remain in force in some jurisdictions, place additional restrictions on collective bargaining.

The legislative initiatives undertaken in the 1960s by the federal and provincial governments have been described as a "bold experiment" (Arthurs, 1969). Certainly, Canada has gone further than most of the

other countries with which we often compare ourselves in giving employees of the public and quasi-public sectors the right to collective bargaining and the right to strike. To construct detailed comparisons in this regard between Canada and other countries would be a difficult task, but a skeletal summary may be useful. The United States and the United Kingdom are the most obvious choices for comparison, since the United States shares with Canada a common private sector model for collective bargaining, and both the United States and the United Kingdom have exercised important, though unequal, influence on our industrial relations system.

Virtually all public sector employees in Canada are covered by comprehensive statutes which grant them the right to organize themselves into unions and to engage in collective bargaining. This right is not as well defined in some other countries. In the United States, federal employees have the right to form or join unions, but lack the right to bargain with their employer. Compensation is set primarily on the basis of comparability with the private sector. At the state level, the individual's right to form and join a union is protected, but the right to bargain collectively is not guaranteed in the absence of statutory provisions. A large number of states have been reluctant to provide such legislation. In Britain, while there are no statutory requirements that public sector employers must engage in collective bargaining with representatives of their employees, it would be unusual for employers to refuse to do so. Pay for employees of the central government (civil servants), however, is determined primarily on the basis of "fair comparisons" with the private sector. The scope of bargaining in Canada's public sector is generally more limited than that in the private sector, but such limitations are also common in the United States. While Britain has no such statutory limitations, bargaining through a centralized structure tends to impose limits on issues that are normally subject to negotiation.

There are major differences, especially between Canada and the United States, in the area of dispute resolution procedures. Canada's federal sector is marked by a unique feature in that, should negotiations fail to produce an agreement, the employees' bargaining agent alone may select either the conciliation/strike or the arbitration route as the means for resolution of an interest dispute. The provinces tend to rely on binding arbitration as the ultimate method of resolving interest disputes in the public sector. Nevertheless, the Canadian system goes far beyond that of the United States in permitting the use of the strike weapon. While limitations on the right to strike do exist in Canada, they fall far short of the outright ban that is in effect for most federal and many state public sector employees in the United States.

The response to the legislative initiatives of the 1960s was indeed dramatic. Unionization of employees of federal and provincial govern-

ments increased markedly, and today almost 100 percent of eligible employees are covered by collective agreements. In the 1970s the unionization of teachers, nurses, hospital workers, and related quasi-public sector employees added momentum to the rate of union growth. During this period, employment growth was also strong in the government sector and in education, health and related services. The rapid growth in unionization in these sectors can be explained, in part, by the fact that most of these employees had previously been represented by associations which engaged in consultation with employers on wages and working conditions. Thus, in many instances, an organizational structure already existed. Nonetheless, the change from consultation with an employee association to collective bargaining was more than cosmetic in nature.

The rapid growth in collective bargaining within the public sector has led to considerable controversy. Large wage settlements by high-profile public and quasi-public sector employees, such as St. Lawrence Seaway workers, public servants, teachers and postal workers, have been blamed by some observers for contributing to the inflationary problem of the past two decades. Several analysts (e.g., Courchene, 1977) have attributed much of the wage explosion that culminated in the mandatory wage and profit controls in the 1975 Anti-Inflation Program to the effects of public sector wage settlements.<sup>21</sup> More recently, beginning in 1982, the federal and most provincial governments imposed wage controls on their respective employees through the "6-and-5" scheme and related wage-restraint programs. This policy initiative reflected, in part, a concern that public sector wage settlements were not being modified downward in response to the weak labour-market conditions brought on by the recession.

Wage settlements in the public sector have been a prominent policy issue since the late 1960s. They were partly responsible, at least, and possibly to an important extent, for the two major intrusions of government into collective bargaining in the postwar era: the 1975-78 Anti-Inflation Program and the wage restraint programs introduced in 1982.

Public sector labour disputes have also generated controversy. Public opinion polls indicate that Canadians are becoming increasingly intolerant of strikes, especially in certain public services.<sup>22</sup> The issues for which public sector workers should have the right to strike, and how disputes should be resolved for those denied that right, have been at the forefront of policy debates.

Another trend apparent since the mid-1960s has been the increased use of back-to-work legislation. Table 1-1 shows the number of cases in which the federal and provincial governments have employed emergency back-to-work legislation during each five-year period since 1950. In the provincial jurisdictions, many of the disputes terminated in this

TABLE 1-1 Back-to-Work Legislation, 1950-84

Years	Federal Jurisdiction	Provincial Jurisdiction	Total
1950-54	1	—	1
1955-59	1	1	2
1960-64	2	1	3
1965-69	2	8	10
1970-74	4	9	13
1975-79	6	16	22
1980-84	1	18	19

Source: Canada, Department of Labour, Federal-Provincial Relations and Liaison Branch (Ottawa), and calculations by the author.

way have occurred in the public sector.<sup>23</sup> The upward trend is a further indication of increased government involvement in the collective bargaining process.

These recent developments suggest to some observers that the federal and provincial governments are rethinking the changes made in the 1960s with respect to collective bargaining and the right to strike in the public sector. To the labour movement, this shift seems part of an attack on the institution of collective bargaining. To others, including much of the business community, it represents necessary movement away from the overly permissive environment surrounding public sector wage determination in the past two decades.

This situation suggests that the present may be an important turning point for public sector labour relations. One view is that the current public sector restraint programs are indeed temporary, and that there will be a return to collective bargaining along the lines that existed prior to 1982. An alternative view is that some of the present restrictions on public sector bargaining will remain. An extreme version of this second view holds that the period from 1964 to 1982 constituted an experiment with public sector collective bargaining along private sector lines, and that the experiment has now been concluded and judged by those in authority to have been a failure.<sup>24</sup> To assess these views and their implications for collective bargaining in Canada, we examine the experience with public sector labour relations.

The issue which has perhaps generated the most controversy has been that of public sector compensation. As Wilton (1985) notes, there is a strong conventional wisdom that the forces which influence wage determination in the private sector are not operative in the public sector or are, at least, distinctly muted. These purported differences in the determinants of compensation in the two sectors are typically viewed as leading to public sector employees enjoying a wage advantage over comparable private sector employees. Adding to this is a general view that public sector employees enjoy greater non-wage benefits and job

security than their private sector counterparts, and therefore should, in labour market equilibrium, earn lower wages. In addition, it is often stated that public sector wages are less responsive to changes in economic conditions than are wages in the private sector.

A related set of hypotheses involves the influence of public sector compensation on that in the private sector. This "spillover" hypothesis can take two forms. One theory is that higher wage levels or higher rates of increase for wages in the public sector will affect wages in the private sector, possibly to the extent of imparting an inflationary bias to the economy. The second theory is that a lower sensitivity to economic conditions displayed in public sector wage settlements implies that in economic downturns, public sector settlements will decline less rapidly than those of the private sector. If, in addition, public sector settlements affect those made in the private sector, the sensitivity of wage changes to economic conditions will be reduced in both sectors. The increased wage rigidity that results will make the control of inflation through demand restraint more difficult and may contribute to greater cyclical variations in employment and output.<sup>25</sup>

Two quite separate policy concerns are evident in the controversy over public/private sector compensation. The first relates to the efficient use of society's labour resources. If wages for comparable workers are higher in one sector than another, too few labour resources will be employed in the higher wage and too many in the lower wage sector. By reallocating labour in such a way as to equalize wages across sectors, total income and thus living standards will rise. (For a more detailed discussion of this point in the context of union/non-union wage differences, see the final section of this paper.) The second concern relates to inflationary pressures emanating from public sector wage increases. If these occur and affect the private sector, a decline in aggregate demand, leading to reduced output and employment, may be necessary to restrain inflationary pressures.

These hypotheses about private versus public sector wage behaviour can be tested empirically. In Canada, a significant amount of research has been conducted by economists and policy analysts into these matters.<sup>26</sup> The results of this research are surveyed and discussed in Gunderson (1984) and Wilton (1985) and are briefly reviewed here. Studies of both wage levels and wage changes have been carried out.

At the outset it should be made clear that the public/private sector earnings differences discussed here are statements about average behaviour. Behind these averages is considerable variability — across occupations, regions, industries and components of the public sector. It will generally be possible to find exceptions — particular occupations, regions or industries — to the average behaviour. However, the policy debate is essentially about overall private/public sector differences, so that examination of average behaviour is warranted.

Comparison of wage levels indicates that, in recent years, public sector employees have typically enjoyed a compensation advantage over "comparable" workers in the private sector. "Comparability" is established by one of two main methods: comparing earnings of workers in the same occupation where presumably the nature of the work is similar, especially if the occupations are narrowly defined; or using data on earnings of individual workers and, through regression analysis, controlling for other factors which affect compensation, such as age, education, sex, skill level and training. (Unfortunately, it is generally not possible to control for differences in employment security, nor is it clear that such differences, after controlling for occupation and union status, exist.) The size of this compensation advantage varies considerably across groups of employees: it is largest for females and low wage workers, and smallest — often, indeed, a disadvantage — for employees at higher salary levels. Occupational wage comparisons using a variety of data sets show a public sector wage advantage of 1 to 15 percent in recent years. Earnings equations estimated with 1970 census data found a 6.2 percent public sector earnings advantage for males and 8.6 for females (Gunderson, 1984).

This public sector compensation advantage has not always existed. The available evidence indicates that in the 1950s, public sector employees were paid somewhat less than comparable private sector employees. The differential emerged in the 1960s and 1970s. For example, examination of the ratio of public to private sector wages for labourers in various Canadian cities shows an average ratio of 0.96 in the 1952–62 period and 1.06 in the 1963–73 period. Updating the data (available for the largest cities) to 1980 yielded similar conclusions, with the additional result that the ratio peaked in most cities prior to 1980, indeed in most cases in the late 1960s or early 1970s (Gunderson, 1984, Appendix 1).

The timing suggests that the emergence of this differential probably reflects two factors: the rapid growth in public sector employment during this period and unionization. The first factor results from the tendency that, in order to attract additional workers, a sector with rapidly growing labour demand is likely to exhibit somewhat higher wage increases than are typical of sectors which are growing at average rates. This factor operates in private industry as well. The resulting compensation advantage will tend to disappear once employment growth slows to the average rate; that is, it is a "dynamic differential." The second factor is unionization. It is well established that unionized workers are paid more than they would earn in the absence of unionization and more than comparable non-union workers. U.S. studies have found that this union/non-union wage differential exists in both sectors, though it is generally higher in the private sector.<sup>27</sup> Even if the union/non-union wage differential is lower for public than private sector workers, an overall public sector wage advantage could result because union density is higher in the public than in the private sector.

Three recent studies using micro wage data lend considerable support to the view that the economic "rents" earned by public sector employees are primarily, if not entirely, due to unionization. These studies represent the only Canadian research based on data in which both private/public sector status and union/non-union status are observed. Robinson and Tomes (1984), using data from the 1979 Social Change in Canada Survey, found large union/non-union wage differentials in both sectors. The public/private sector wage differential largely disappeared once union status was controlled for. Their analysis was, however, restricted to hourly paid workers, which limits the public sector observations considerably. Simpson (1985), using data from the 1974 Labour Canada Wages Survey, found that wages of unionized public sector workers are lower than for comparable unionized private sector workers, and non-union wages are higher for public sector workers. His results suggest that the public sector wage advantage is entirely due to the greater proportion of workers unionized in the public sector. Finally, Kumar and Stengos (1984), in a study using 1982 Survey of Work History data, reach similar conclusions.

As noted above, the recent evidence suggests that the public sector wage advantage peaked in the late 1960s or during the 1970s and has declined modestly since that time. This evidence is consistent with the two explanations mentioned above, for employment growth and unionization growth in the public sector have slowed since the later 1970s. Further, these factors suggest that the public sector wage advantage is unlikely to widen in the future, and may even decline further. Employment growth in the public sector is expected to be slow, so that any dynamic differential that remains should disappear. Unionization is virtually complete, so a widening of the differential would occur only if union density were to decline in the private sector or if the union/non-union wage differential were to widen.

A serious limitation of the empirical studies of private/public compensation is that they are based on wage rates or earnings, and do not take into account fringe benefits and other non-wage aspects of compensation. The large and growing importance of fringe benefits makes such comparisons very important. Unfortunately, Canadian information on fringe benefits and working conditions is limited. The available evidence (see Statistics Canada, 1978; Daniel and Robinson, 1980; Gunderson, 1984) suggests rough comparability between the private and public sectors in the value of observed fringe benefit costs. However, these comparisons do not take into account working conditions such as job security and deferred compensation such as early retirement and indexed pensions. Valuation of such aspects would, in Gunderson's (1984) view, in all likelihood show public sector employees to have a higher value of fringe benefits and other non-wage aspects of employment.<sup>28</sup> There remains, however, uncertainty about these issues. In the absence of better information, the most that can be concluded is that the value of

**TABLE 1-2 Wage Settlements in Major Collective Agreements, 1972-84**

	Federal Administration	Local Administration	Provincial Administration	Private Sector
1972	8.8	7.6	7.2	9.7
1973	12.0	9.8	10.3	11.6
1974	11.2	12.6	14.2	16.8
1975	13.9	16.5	25.1	17.8
1976	11.9	10.4	11.2	10.5
1977	9.5	7.9	7.5	7.9
1978	6.7	6.5	7.3	8.2
1979	8.3	8.7	8.3	9.9
1980	10.8	10.4	11.2	11.8
1981	12.6	13.2	13.6	13.5
1982	8.3	12.9	11.3	10.8
1983	8.4	5.7	5.8	5.2
1984	5.0	3.2	5.4	2.8

*Source:* Canada, Department of Labour, *Wage Developments*, various issues, and Labour Data Branch (Ottawa: The Department).

*Note:* Major collective agreements refer to bargaining units with 500 or more employers, excluding construction. Wage settlements are measured as the compound annual rate of increase on the base rate over the life of the agreement. Contracts containing cost-of-living-allowance clauses are excluded.

fringe benefits and working conditions do not appear to offset, and may add to, the public sector compensation advantage.

Examination of wage changes over time provides a useful complement to the comparisons of wage levels at a point in time. The primary source of information is Labour Canada's data bank of base wage rate changes in major collective agreements.<sup>29</sup> Wilton (1985, Figure 5-1) shows the average annual negotiated wage change for contracts without cost-of-living allowance (COLA) clauses in the commercial and non-commercial sectors, a distinction that corresponds very closely to the private and public sectors.<sup>30</sup> Over the 1968-83 period, settlements in the non-commercial sector have averaged slightly *below* (0.4 percent per year on average) those in the commercial sector. Table 1-2 breaks down the non-commercial sector into the federal, provincial and local administrations. Since the end of the Anti-Inflation Program in 1978, similar behaviour of wage settlements is evident in all four sectors. However, prior to the AIP's introduction in October 1975 there were significant differences, with wage increases in provincial administration dramatically higher than those in the private sector. Wage increases in the local and federal administrations were also above those in the private sector, but below those in provincial administration. Wilton (1985, Table 5-2) shows that including wage increases obtained under COLA clauses (which are much more widely used in the private than public sector) maintains the picture of similar wage behaviour since the end of the AIP in 1978.

Comparison of wage changes over time also indicates that there is little basis for the view that public sector wage settlements are less responsive to changes in economic conditions than those in the private sector. Indeed, as Wilton's Figure 5-1 illustrates, the time series behaviour of wage settlements in the two sectors is remarkably similar. Empirical studies find that other determinants of wage changes (labour market tightness, inflationary expectations, catch-up for unanticipated inflation) have similar effects in the two sectors. If we estimate separate wage equations for the two sectors, for example, the parameter estimates associated with the explanatory variables (expected inflation, unemployment, etc.) are not significantly different across sectors. This is an issue, however, on which conflicting results have appeared in the literature. In particular, the early study of Cousineau and Lacroix (1977) found differences in behaviour between the two sectors. Later studies by Auld, Christofides, Swidinsky and Wilton (1979) and Riddell and Smith (1982) found no differences. Wilton discusses a number of factors which could account for these different results. A key factor appears to be the exclusion of COLA contracts from the more recent studies. In particular, by including COLA contracts in the sample, Cousineau and Lacroix's results are influenced much more than the subsequent studies by the Quebec public sector settlements recorded in the 1970s, which contained substantial COLA components. Related work by Cousineau and Lacroix suggests that the Quebec public sector wage determination process is an exception to the general finding that the behaviour of public and private sector wage settlements is similar. Because the Quebec public sector accounts for a substantial fraction of provincial unionized employees, this difference in the data sets employed could have a significant impact on the results.

Wilton also reports an updated regression analysis using wage settlement data for the 1978-83 period. (The studies reviewed above are based on data ending in 1978 or earlier, with the exception of the Riddell and Smith (1982) study which included data to 1981. Thus, none of these studies includes settlements during the recession of 1982-83.) The analysis of the recent behaviour does not alter the conclusions that there are no significant differences in the overall determinants of wage settlements in the two sectors.

There is little evidence to support the view that the determinants of wage settlements operate with significant differences in the two sectors, though there appear to be two exceptions to this general conclusion. One is the special, and quantitatively important, case of Quebec in the 1970s. The other exception, found by Auld et al. (1979), is that arbitrated awards, which are virtually non-existent in the private sector but much more prominent in the public sector, do have different determinants from those of private sector and negotiated public sector wage settlements. In particular, arbitrated awards exhibit less sensitivity than do negotiated

settlements to economic conditions, and more to the past effects of inflation and to movements in wages of similar workers elsewhere. However, arbitrated awards are not numerous enough to make the overall behaviour of public sector wage changes different from that of the private sector.

Studies of wage changes have also concluded that there is relatively little support for the view that public sector settlements spill over in a broad general way into the private sector. However, there is evidence of wage spillover from the public to the private sector in specific urban areas and particular occupations. In particular, Auld et al. (1979) tested for spillover effects by adding, as an explanatory variable in their equation for private sector wage changes, the most recent settlements in the total public sector within the same region as the private sector settlement. This general spillover variable was not significant. The more recent study by Lacroix and Dussault (1984), however, found significant spillover effects in particular circumstances: when the settlement covers workers employed in both sectors, and when the private and public sector workers are located in the same urban area. However, settlements involving teachers, nurses, firefighters or police, who are primarily employed in the public sector, exhibited no spillover effect on private sector settlements. The spillover effect of public sector settlements declined with the size of the urban area, and there was not a significant effect on private sector wage changes in different urban areas.

Both Auld et al. and Lacroix and Dussault found substantial evidence of spillover effects within the private sector; that is, current wage changes in the private sector appear to be influenced by recent private sector settlements, after controlling for other factors affecting both such as inflationary expectations and catch-up. These within-private-sector spillovers dominate in magnitude any public/private sector spillovers.

Two caveats should be noted. First, while wage increases in the public and private sectors have been, on average, very similar over the 1968–83 period, we cannot be certain that this outcome would have occurred in the absence of government intervention in the wage determination process. The Anti-Inflation Program of 1975–78 was introduced, to a considerable extent, because of concern over the consequences of high public sector settlements in 1974–75. Empirical studies have found that the wage controls administered by the Anti-Inflation Board had a larger restraining impact on public than private sector settlements. Further, the wage controls introduced in 1982 applied only to the public sector. They may have had a “demonstration effect” on private sector settlements but this influence was probably very modest, if indeed there was any such effect. Both interventions into the wage bargaining process may thus have had a larger impact on public than private sector settlements.<sup>31</sup>

Second, there are important limitations in the data. They exclude non-union wage increases, which are more important in the private sector;

employ the base wage rate, generally that paid the lowest classification in the bargaining unit; exclude the value of fringe and non-wage benefits; and do not take into account the possibility of "classification creep," by which individuals receive wage increases through promotion and reclassification. Each of these limitations may bias the comparison.

What are we to conclude from this examination of the evidence relating to public and private sector wage behaviour? First, on average, compensation is higher in the public than in the private sector. This compensation advantage has not always existed: it was a disadvantage in the 1950s prior to the introduction of collective bargaining, grew during the 1960s and early 1970s, and appears to have declined in recent years. Overall, the differential is in the 5 to 10 percent range, though it is considerably more for some groups (in particular women and low wage earners) and considerably less for others. The compensation advantage does not appear to be offset by lower fringe benefits or poorer working conditions. Second, the overall public/private sector wage differential can primarily, perhaps entirely, be accounted for by the higher union density in the public sector. That is, individual unionized public sector employees are not paid more than comparable unionized private sector employees; indeed, the reverse appears to be true. Individual non-union public sector employees do appear to be paid more than comparable non-union private sector employees, though this conclusion is less certain. Third, although public (non-commercial) sector wage changes, especially those in provincial administration, did exceed private (commercial) sector settlements in the early 1970s, a period of substantial unionization activity, the average increase in base wage rates over the period 1968-83 was no greater in the public than in the private sector. Since the end of the Anti-Inflation Program in 1978, wage increases in the two sectors have been very similar. Fourth, the responsiveness of wage changes to variations in economic conditions (inflation, unemployment, etc.) is similar in the two sectors with the exception of arbitrated awards. Fifth, fears that high-profile public sector wage settlements spill over in a broad and pervasive way into the private sector, thereby imparting an inflationary bias to the economy, appear to be largely unfounded. However, such spillover effects have been found to occur when the occupation is common to both sectors and when the settlements are in the same urban area. This effect is largest in small urban areas. Sixth, public sector wage behaviour in Quebec appears to have been unique, and may be an exception to several of these conclusions.

What are the policy implications of these results? The main implication is that it does not appear necessary to make *drastic* changes in the legislation governing collective bargaining in the public sector because of concern about the behaviour of public sector wages, a conclusion also reached by Gunderson (1984), Kumar (1984), and supported by Wilton. This does not imply that change should not be contemplated. Our

experience with reasonably free collective bargaining in the public sector is limited to the past two decades and there are important gaps in our knowledge of the results of that experience. The system should be adjusted as the evidence on desirable and undesirable features accumulates. However, the available evidence suggests that fine-tuning and incremental change is appropriate, rather than a major retreat from reliance on collective bargaining in this sector. Experimentation with the criteria to be employed by arbitrators, the use of comparability surveys, and the costing of non-wage benefits will likely lead to improvements in the existing system. Recent developments, such as those in Quebec and in the federal public service, indicate that the parties are able to bring about changes to existing arrangements, despite the difficulties involved.

To some the conclusion that any public sector wage advantage can be “explained” by the extensive unionization in that sector is reason enough for retreating from the use of collective bargaining in that sector. It is true that with unionization come higher compensation levels than would otherwise exist, and this development somewhat elevates the costs of providing schools, hospitals and other public services. This is one of the effects of collective bargaining, and it exists in the private sector as well as in the public sector. Just as extensive unionization in the automobile industry raises the price of cars to consumers, so unionization among government employees raises the cost of public services. There does not appear to be any reason to treat one group differently from another on these grounds alone.

However, there are important differences in the economic forces which affect wage settlements in the private and public sectors. While some differences may operate in the other direction, the overall effect of these forces is likely to impart an upward bias to public sector wages to some degree.<sup>32</sup> Further, there are cases in which the conditions governing public sector wage determination have not been conducive to achieving socially desirable results. The highly centralized bargaining in the Quebec public sector is probably the best example (Hébert, 1984). Governments will therefore wish to continue to monitor developments in their jurisdictions, in order to ensure that these do not contribute to the development of inflationary pressures.

A fundamental problem remains in public sector wage policy — that of separating the government’s role as employer from that as protector of the public interest. The recent public sector wage restraint programs illustrate this difficulty.<sup>33</sup> From the public interest perspective, this approach can be argued to have had some justification as a limited form of incomes policy designed to help reduce inflation, though whether it was effective is another matter. However, governments generally did not distinguish this purpose from that of controlling the costs of providing public services in a period of reduced revenues. The latter is analogous to a private employer who wishes to reduce costs deciding to ignore the

collective agreement or the requirement to negotiate a new agreement collectively in good faith. This approach is inconsistent with the stated commitment to collective bargaining as a means of determining wages and working conditions. As stated by Kumar (1984, p. 11): "Whatever the political 'realities,' unless governments make the distinction between these two roles more explicit, public sector bargaining will continue to be turbulent, confused and politicized."

The two major issues in public sector labour relations are compensation and strikes and lockouts. This section has dealt with the first of these issues. To deal with the second, we need to examine collective bargaining disputes in general.

## Collective Bargaining Disputes

The amount of strike and lockout activity is probably the most commonly used measure of the state of labour-management relations in a country. In Canada the view that the state of labour-management relations deteriorated in the last 15 to 20 years is based to a considerable extent on the number of collective bargaining disputes.<sup>34</sup>

Policy makers in Canada have long displayed considerable concern with strikes and lockouts. The first major piece of labour legislation in Canada was the Industrial Disputes Investigation Act of 1907, which made work stoppages illegal until after a conciliation board had investigated the dispute and submitted a report. As noted above, the enactment of Order-in-Council P.C. 1003, arguably the most important piece of labour legislation in Canada, appears to have been influenced more by the desire to minimize work stoppages during the war than by the desire to encourage collective bargaining and unionism. The postwar period has seen further growth in regulations with respect to strikes and lockouts.

Concern about the number of collective bargaining disputes in Canada has been expressed in many quarters. For example, an editorial in the *Financial Post* noted that in 1980–82 there "was proportionately more time lost in Canada as a result of strikes and lockouts than in any other Western nation." The editor went on to observe:

The cost of this abysmal record is devastatingly high: lost wages and hardship for workers, reduced business for other businesses because of fewer orders and less consumer spending, disrupted delivery schedules for the struck company that often means permanent loss of orders (sometimes to foreign competitors), soured management-labor relations, setbacks in product development, and a less-attractive investment environment. In today's harshly competitive world, these are costs to society we can less and less afford to bear.

The damaging effects of labor strife are apparent to management and labor — and to government, which has a crucial role to play both as employer and as author of labor legislation. . . . But, there seems little

evidence that these interested parties are sufficiently agitated about our appalling strike record to get some needed changes in the works. . . . Clearly, ours is a system desperately in need of revision.<sup>35</sup>

Other observers have argued that too much attention is paid to collective bargaining disputes as compared to other aspects of labour-management relations or to economic concerns in general. Time lost in labour disputes is small in absolute terms: it amounts to roughly 0.33 percent of total work time, or about one day per year, a total roughly equivalent to the time given to celebrating Canada Day. Moreover, time not worked because of industrial disputes is consistently less than that lost to occupational accidents and illness, and to absenteeism from other causes.<sup>36</sup>

The purpose of this section is to assess these opposing points of view, to examine the causes and consequences of strikes and lockouts, and to determine what, if anything, should be done about strikes and lockouts in Canada. Much of the discussion draws on Robert Lacroix's (1985) paper in this volume.

### *Strikes and Lockouts in Canada: An Examination of Recent Experience*

Labour-management disputes can take a variety of forms, including slowdowns, "work to rule" campaigns, and concerted absenteeism, among others. Little is known about the significance of these different manifestations, for the only data collected systematically are those on strikes and lockouts.

The method of measuring the amount of strike and lockout activity depends on the purpose at hand. If that purpose is to estimate the economic costs associated with collective bargaining disputes, then the total person-days lost owing to strikes and lockouts is probably a reasonably good first approximation. However, if the purpose is to compare strike and lockout activity across countries, time periods, regions or industries, then the comparison should take into account differences in strike and lockout potential. The most obvious factors accounting for differences in strike and lockout potential are differences in the extent of unionization (for almost all strikes and lockouts occur in the union sector) and differences in the number of contracts being negotiated (for most strikes and lockouts occur in the process of contract renegotiation). The ideal measure of strike and lockout activity is the probability that a work stoppage will occur in a given round of contract negotiations; that is, the propensity to strike or lockout.

While there are substantial variations from year to year, it is clear that the volume of strike and lockout activity (as measured, for example, by the percentage of paid workers involved in disputes or by the person-

TABLE 1-3 Strikes and Lockouts in Canada, 1946-83

Period	Strikes and Lockouts per Union Member	Time Lost Due to Strikes and Lockouts per Union Member	Major Collective Agreements Involving a Work Stoppage (%)
1946-50	0.20	2.27	—
1951-55	0.17	1.40	—
1956-60	0.17	1.19	—
1961-65	0.24	1.01	—
1966-70	0.29	2.86	12.1
1971-75	0.33	2.78	14.8
1976-80	0.31	2.42	9.8
1981-83	0.22	1.79	9.0

Sources: Canada, Department of Labour, *Strikes and Lockouts in Canada*, various issues; *Labour Organizations in Canada*, various issues; *Collective Bargaining Review*, various issues; *Work Stoppages December 1983* (1984) and calculations by the author.

Note: Major collective agreements refer to bargaining units with 500 or more employees.

days lost as a percentage of total working time) was higher in the period 1965-83 than in the period 1946-65. Person-days lost as a percentage of working time averaged 0.17 percent during the period 1946-65, and averaged 0.34 per cent in the period 1966-83, an increase of 100 percent. More detailed data are shown in Anderson and Gunderson (1982, Table 1) and Lacroix (1985, Table 3-2). Inspection of this data reveals that the average loss of 0.34 percent of working time for the post-1965 period is also high by historical standards. During the period 1919-45 working time lost due to strikes and lockouts averaged less than 0.12 percent. It would be a mistake, however, to conclude from these statistics that the labour relations climate has worsened since the mid-1960s, or that strikes and lockouts are a more serious economic problem than in the past, without first examining the causes for these trends.

It must be recognized that the strike potential of the Canadian economy also increased in the period since 1965. In particular, union density (the fraction of the non-agricultural labour force unionized) was approximately the same in 1965 as in 1946, whereas it has increased significantly since 1965, primarily because of the growth in unionization in the public sector. Furthermore, union density was considerably higher in the post-war period than in earlier periods. Even if a constant fraction of negotiations result in strikes or lockouts, there would be an increase in the volume of collective bargaining disputes if more of the labour force were unionized. Making the adjustment for the expansion of unionization (see Table 1-3) reveals that some, but certainly not all, of the increase in time lost due to strikes and lockouts from about 0.17 percent of working time in 1946-65 to 0.34 percent in 1966-83 can be accounted for by increased unionization. Both the number of strikes and lockouts per union member and working time lost per union member, especially the latter, were higher after 1965.

Unfortunately, even making this simple adjustment is not as straightforward as it might appear because much of the increased unionization was in the public sector. Although public sector strikes and lockouts have become a larger proportion of total strikes and lockouts (from 2.4 percent of strikes and lockouts and 1.1 percent of time lost in 1962-65 to 17.8 percent of strikes and 20 percent of time lost in 1978-81<sup>37</sup>), the propensity to strike in the public sector is lower than in the private sector.<sup>38</sup> Thus, if other factors were held constant, we would have expected the economy's overall propensity to strike to decline as public sector unionization grew in importance.

It would also be desirable to adjust for the number of contracts being negotiated or renegotiated during a given period as most strikes and lockouts occur in the process of contract renegotiation. As noted above, the probability of a work stoppage occurring in any particular set of negotiations is the most basic measure of strike and lockout activity. The third column of Table 1-3 provides information on this propensity. Over the 1966-83 period about 12 percent of negotiated settlements involved a work stoppage.<sup>39</sup> Unfortunately, these data are not available prior to the mid-1960s.

Does the increase in time lost due to work stoppages since the mid-1960s reflect more or longer strikes and lockouts? The answer to this question is clear. Average strike duration has not changed significantly over the postwar period. Average duration was 19 days over the 1946-65 period and 18 days over the 1966-83 period.

Canada was not the only country to experience an increase in the amount of working time lost due to collective bargaining disputes since the mid-1960s. Nonetheless, the increase does seem to have been larger in Canada than in most other countries. Thus, in comparisons among countries, our relative position has deteriorated. Loewen and Stewart (1980) and Lacroix (1985, Table 3-13), for example, compare 11 countries (Belgium, Denmark, France, West Germany, Italy, the Netherlands, Norway, Sweden, the United Kingdom, the United States and Canada) on the basis of days lost per employed person and find that Canada's relative position deteriorated from 7th in 1948-57 to 9th in 1958-67 to 10th in 1968-81. In the last period only Italy's record exceeded Canada's. These data do not, however, take into account differences in union density, the frequency of negotiations, the structure of collective bargaining, the definition of strikes and lockouts, and other differences across countries, differences which can affect the ranking of countries.

Tables 1-4 and 1-5 show recent data on the number of labour disputes per worker and per unionized worker, thus adjusting for differences in union density across countries.<sup>40</sup> Clearly, Canada stands among the more dispute-prone countries. On the basis of the number of disputes per unionized member, France has the worst record, followed by Italy and Canada, and then the United States, the United Kingdom and

**TABLE 1-4 Number of Strikes and Lockouts per 1,000 Workers, 1960–81**

	Rankings						
	1960–64	1965–69	1970–75	1976–81	1970–81	1976–81	1970–81
Belgium	0.013	0.018	0.053	0.056	0.054	5	5
Denmark	—	—	0.044	0.088	0.067	7	6
France	0.106	0.092	0.175	0.147	0.161	10	9
Italy	0.177	0.164	0.244	0.123	0.181	9	10
Netherlands	0.017	0.006	0.006	0.006	0.006	1	1
Norway	0.007	0.004	0.008	0.011	0.010	2	2
Sweden	0.005	0.005	0.019	0.028	0.024	3	3
United Kingdom	0.102	0.096	0.114	0.081	0.098	6	8
United States	0.052	0.064	0.065	0.046	0.055	4	4
Canada	0.050	0.077	0.094	0.099	0.096	8	7

Source: International Labour Office, *Yearbook of Labour Statistics*, various years and calculations by the author.

**TABLE 1-5 Number of Strikes and Lockouts per 1,000 Unionized Workers<sup>a</sup>**

	Union Membership 1978 (000s)	Number of Strikes and Lockouts per 1,000 Members	Ranking
Belgium <sup>b</sup>	2,621	0.08	4
Denmark	1,553	0.138	5
France	5,320	0.580	10
Italy	8,000	0.311	9
Netherlands	1,700	0.017	1
Norway	976	0.022	2
Sweden	3,240	0.036	3
United Kingdom	12,376	0.161	6
United States	22,798	0.195	7
Canada	3,278	0.306	8

Sources: International Labour Office, *Yearbook of Labour Statistics*, various years, and calculations by the author. Data on union membership for 1978 is taken from *International Labour Profiles*, first edition, 1981, Grand River Books, Detroit Michigan.

Data on union membership for 1976 is taken from E.M. Kassalow, "Industrial Conflict and Consensus in the U.S. and Western Europe," in B. Martin and E.M. Kassalow, *Labour Relations in Advanced Industrial Societies* (1980).

a. Using average number of strikes and lockouts, 1976–81, and union-membership data for 1978.

b. Based on union membership in 1976.

Denmark. The remaining countries have low levels of strike and lockout activity. In terms of working days lost per union member because of labour disputes (Tables 1-6 and 1-7), Canada has the worst record, followed closely by Italy and then by the United States, the United Kingdom and France. Both Canada and the United States fare poorly in

**TABLE 1-6 Number of Working Days Lost per 1,000 Workers, 1960–81**

	1960–64	1965–69	1970–75	1976–81	1970–81	Rankings 1970–81
Belgium	80.0	72.3	227.6	182.8	205.3	6
Denmark	—	—	306.2 <sup>a</sup>	109.0	206.4	7
France	148.3	12.55	169.1	140.4	154.7	5
West Germany	18.4	5.6	40.8	36.2	38.5	2
Italy	632.1	822.2	1128.9	880.0	999.0	11
Netherlands	28.1	4.9	57.3	22.7	39.5	3
Norway	103.9	7.4	41.1	32.6	36.6	1
Sweden	4.5	25.1	61.3	195.1	130.2	4
United Kingdom	128.9	158.1	522.1	465.0	493.4	9
United States	277.4	490.8	501.9	353.9	422.1	8
Canada	191.8	663.0	835.5	786.1	808.7	10

Sources: International Labour Office, *Yearbook of Labour Statistics*, various years, and calculations by the author.

a. 1972–75.

**TABLE 1-7 Number of Working Days Lost per 1,000 Unionized Workers<sup>a</sup>**

	Ranking
Belgium <sup>b</sup>	6
Denmark	4
France	7
West Germany	3
Italy	10
Netherlands	2
Norway	1
Sweden	5
United Kingdom	8
United States	9
Canada	11

Sources: International Labour Office, *Yearbook of Labour Statistics*, various years, and calculations by author. Data on union membership for 1978 is taken from *International Labour Profiles*, first edition, 1981, Grand River Books, Detroit, Michigan.

Data on union membership for 1976 is taken from E.M. Kassalow "Industrial Conflict and Consensus in the U.S. and Western Europe," in B. Martin and E.M. Kassalow, *Labour Relations in Advanced Industrial Societies* (1980).

a. Using average number of days lost, 1976–81, and union-membership data for 1978.  
b. Based on union membership in 1976, and average days lost during 1976–80.

international comparisons of strike and lockout activity based on working time lost to labour disputes. The reason is that disputes tend to last longer in North America than in most European countries and in Japan. For the period from 1977 to 1981, for example, the average duration of work stoppages was about twenty days in Canada and the United States, seven days in the United Kingdom and Norway, five in Germany and

Sweden, and fewer than four in Denmark, France, Japan and Italy (Canada, Department of Labour, 1983, p. 82).

International comparisons of the volume of labour disputes are very difficult to make because of differences in the way disputes are defined and measured and because of substantial differences in collective bargaining institutions among countries (see Lacroix, 1985, for a more detailed discussion of this point). The most meaningful comparison is between Canada and the United States, two countries with similar collective bargaining institutions and measurement procedures. Thus, a check on the conclusion suggested above, that our strike and lockout activity has risen relative to other countries, would involve a Canada-U.S. comparison. Tables 1-4 and 1-6 show the number of strikes and lockouts and the working time lost per 1,000 workers in the two countries since 1960. Clearly, strike and lockout activity has grown more in Canada than in the United States. Once we adjust for the divergent trends in union growth, however, the outcome is more equivocal (see Table 1-8). The number of strikes and lockouts per union member has not been consistently higher in Canada than in the United States, though time lost per union member has typically been higher here since 1972.

One factor that complicates a Canada-U.S. comparison is that many unionized public sector workers in the United States lack the right to strike, while their Canadian counterparts enjoy this right. Thus, a valid comparison of the two countries should examine the private sector alone. An examination of private sector strike and lockout activity per union member in Canada and the United States since 1960 indicates some increase in these activities in both countries, but the increase is greater in Canada. In Canada, for example, the number of private sector work stoppages per 1,000 union members averaged 0.40 percent in 1966-76, as compared with 0.23 percent in 1960-64, an increase of 74 percent. The comparable statistics for the United States were 0.31 percent in 1966-76, as compared with 0.23 percent in 1960-64, an increase of 35 percent. The comparison of time lost per union member is even less favourable to Canada: an increase of 287 percent in the Canadian private sector as compared with a growth of 86 percent in the United States over the same periods.<sup>41</sup>

This examination of the evidence on work stoppages indicates that strike and lockout activity has been significantly greater during the last twenty years than in earlier periods of Canada's history. This increase cannot be attributed simply to the increased extent of collective bargaining in our economy, for the amount of strike and lockout activity per union member has also risen significantly. Several other countries have also experienced a higher incidence of strikes and lockouts, beginning in the mid-1960s. The increase has been relatively greater in Canada, however, so that Canada is now among the most dispute prone of the industrialized nations.

**TABLE 1-8 Strikes and Lockouts in Canada and the United States, 1960-83**

	Strikes and Lockouts per 1,000 Union Members		Time Lost to Strikes and Lockouts per 1,000 Union Members	
	Canada	United States	Canada	United States
1960	0.184	0.195	506	1,120
1961	0.188	0.207	923	1,000
1962	0.204	0.218	996	1,121
1963	0.219	0.203	633	974
1964	0.219	0.217	1,059	1,360
1965	0.301	0.229	1,479	1,347
1966	0.335	0.246	2,983	1,416
1967	0.259	0.250	6,069	2,292
1968	0.278	0.267	2,529	2,591
1969	0.273	0.299	3,736	2,252
1970	0.231	0.295	3,009	3,427
1971	0.245	0.267	1,285	2,477
1972	0.233	0.258	3,247	1,393
1973	0.261	0.270	2,229	1,408
1974	0.429	0.301	3,376	2,376
1975	0.382	0.257	3,783	1,598
1976	0.303	0.288	3,817	1,928
1977	0.235	0.277	1,050	1,800
1978	0.306	0.209	2,255	1,824
1979	0.297	0.241	2,347	1,735
1980	0.280	0.196	2,642	1,681
1981	0.270	—	2,546	—
1982	0.168	—	1,602	—
1983	0.162	—	1,247	—

*Sources:* Canada, Department of Labour, *Strikes and Lockouts in Canada*, various years; *Directory of Labour Organizations in Canada*, various years, and calculations by the author.

United States: Bureau of Labor Statistics, *Handbook of Labor Statistics 1983* and *Directory of National Unions and Employee Associations 1979*; L.T. Adams, "Changing Employment Patterns of Organized Workers," *Monthly Labor Review* (Feb. 1985), 25-31, and calculations by the author.

*Note:* Union membership for 1979 is an average of the 1978 and 1980 figures. U.S. union membership data do not include members of employee associations because these groups do not have the right to strike.

### *The Causes of Work Stoppages*

In order to determine what can or should be done about strike and lockout activity we need to understand the causes of collective bargaining disputes. Undoubtedly, as with any complex phenomenon, there may be multiple causes. Nevertheless, it is useful to ask whether there is any general framework which might help us to understand collective bargaining disputes, and which might serve as an aid to forming policy decisions.

A simple explanation is that strikes and lockouts result from bad personal

relations among employers and employees and/or management and union leaders. These poor relations lead one or both sides to adopt unrealistic bargaining positions, making unlikely any concessions that would lead to a settlement. This explanation is difficult to test, for even if “bad personal relations” could be measured, how would one know whether the bad relations caused the work stoppage or vice versa? Nonetheless, it may be a factor, since the ability to see things from the perspective of the other side is an important ingredient in any negotiations.

Alternatively, union militancy or bargaining power has sometimes been seen as the primary source of labour disputes. If this view is correct, strikes should be more frequent at times when unions enjoy greater bargaining power, and work stoppages should occur more often in those industries, firms or regions where union bargaining power is greater. This theory is at least consistent with the general finding that strike and lockout activity is pro-cyclical; that is, tends to increase in the expansionary part of the business cycle and decrease in recessions. However, as Lacroix discusses in more detail, there is a serious logical difficulty with this theory. As long as both sides recognize that an increase in bargaining power has occurred, why should this increase make a work stoppage more likely? In other words, variations in bargaining power should lead to variations in the size of wage settlements, other conditions being equal, rather than to variations in strike and lockout activity. For this reason, more recent and more widely accepted explanations of collective bargaining disputes have tended to go beyond bargaining power as a primary cause and to focus on other factors such as the expectations of the various parties involved, the information available to them, the costs of a work stoppage to each party, and the incentives on each to reach an agreement.

In collective bargaining there are at least three parties involved: management, union leaders, and union membership. Information flow among all three groups can be important. The well-known Ashenfelter-Johnson (1969) explanation of strikes stresses the incentives facing each party and the workers’ expectations of a settlement. If these expectations are higher than the firm is prepared to pay, the union leaders, who are assumed to be better informed than the members about the firm’s willingness to pay, may recommend a strike rather than attempt to persuade the membership to lower its expectations. The latter is viewed as a risky strategy for the union leaders to follow, as it makes them appear to be taking the firm’s part in the negotiations. The strike, in this theory, is a method for reducing the workers’ expectations until they are consistent with what the firm is willing or able to pay. As discussed in more detail by Lacroix, this theory is internally consistent but nonetheless flawed. Perhaps the most important defect is the assumption of very naïve and myopic behaviour on the part of workers yet rational and calculating behaviour on the firm’s part.

Of the various explanations for strike activity, the Ashenfelter-Johnson theory has probably received the most attention in empirical work. It has, for example, been applied with success to explaining the aggregate time series behaviour of strikes and lockouts in the United States by Ashenfelter and Johnson (1969), the United Kingdom by Pencavel (1970), and Canada by Abbott (1982b), among others. While the results are generally consistent with the theory, they do not provide a strong test against alternative explanations. Variables such as the aggregate unemployment rate, past trends in real wages, and the ratio of profits to total compensation are generally found to be significant determinants of strike frequency, but are only loosely connected to the underlying theory.

The Ashenfelter-Johnson model was clearly important in the development of understanding of the causes of strikes, and possibly remains as an explanation of some strike activity. However, for the above reasons, social scientists have turned more recently to a general theory of strikes and lockouts which might be termed the "information/joint costs" perspective. This perspective views imperfect and asymmetric information as the primary underlying cause of work stoppages, but also emphasizes the role played by the costs to both employer and employees of an impasse.

Strikes and lockouts impose costs on both parties. During a work stoppage, workers lose income and the firm loses profits. More permanent losses may also occur: some of the firm's customers who have turned to competitors during the shutdown may not return. If this happens, profits will be lower, and employment will be lower even after production resumes. If, then, strikes and lockouts are costly to both sides, why do they occur?

In a world of certainty and of perfect information, resort to strikes and lockouts should rarely, if ever, be made. Both sides would anticipate their point of settlement; thus, barring irrational behaviour, they would agree to that outcome and avoid the costs of a shutdown. This point was stated by Sir John Hicks (1946, p. 147): "The majority of actual strikes are doubtless the result of faulty negotiation. . . . Any means which enables either side to appreciate better the position of the other will make settlement easier; adequate knowledge will always make a settlement possible." In any bargaining situation, however, each side will be somewhat uncertain about the willingness of the other to make concessions and about the other's "true" minimum demands. This lack of certainty can lead to strategic behaviour, such as bluffing, since it is in the interest of each side to convince the other that they are less willing to yield than, in fact, they are. Imperfect information may also lead to the parties' expectations responding differently to changes in the external economic environment. Moreover, it will usually not be in either side's interest to reveal its own private information, as this revelation might make its behaviour more predictable.

These factors indicate that collective bargaining is a complicated "game" in which uncertainty and imperfect information can lead to impasses, despite the costs to both sides. In choosing whether or not to make a concession, each party will weigh the risk of an impasse against the possibility of a relatively unfavourable outcome for its own side.

Information-based explanations thus treat strikes and lockouts as a hazard of collective bargaining in the same sense that accidents are a hazard of travelling. Just as more accidents occur under poor driving conditions, so more strikes and lockouts occur under poor economic "driving conditions." When economic conditions are stable, impasses are less likely to occur. Both sides will recognize at what point they are likely to settle, and both will prefer to reach that point without incurring the cost of a work stoppage. When economic conditions are changing rapidly, however, it is more difficult for the two parties to anticipate the likely point of settlement, and a strike or lockout becomes more probable, despite the costs it represents to both sides. While uncertainty and imperfect information do play an important part in the occurrence of impasses, both parties, in coming to their negotiating decisions, will nonetheless take into account the potential costs of a strike or lockout. Thus, the greater the possible costs to both sides, the less likelihood there is of an impasse.

The above constitutes an heuristic explanation of the information/joint costs perspective. As the quote from Hicks made clear, the basic idea is far from new. Recently, however, this view has been formalized by several authors, including Kennan (1980), Reder and Neumann (1980), Siebert and Addison (1981), Hayes (1984), and Fudenberg, Levine and Ruud (1983), so that its implications are becoming clearer. There is also some recent empirical evidence, such as that reported by Mauro (1982), Neumann (1980), and Cousineau and Lacroix (1983), which is consistent with this view, although generally not a strong test against alternatives. The asymmetric information theories, such as those of Hayes (1984) and Fudenberg et al. (1983), are also able to account for the general empirical finding that strikes vary pro-cyclically (Kennan, 1985). Although our knowledge of the determinants of work stoppages is far from complete, the information/joint costs perspective appears to provide the most satisfactory general explanation of strike and lockout activity. This conclusion is also reached by Lacroix.

The repetitious nature of collective bargaining situations is also important. Today's strike or lockout, despite its costs, might enhance one side's reputation for "toughness," making its threats more credible in the future. Through repeated bargaining, the two sides might learn about each other's preferences and behaviour. Both these factors suggest that work stoppages should be more likely in relatively new rather than in established, mature collective bargaining situations: the first, because there is a stronger incentive to invest in a reputation when reputations are not yet established, and the second because the gradual accumula-

tion of each side's knowledge about the other should make impasses less likely. As Lacroix notes, the dramatic growth in unionization that has taken place since the mid-1960s brought many new participants into the collective bargaining process. The escalation of disputes that has been observed during the same period may be related to this explanation.

Alternative explanations have quite different implications for policy with respect to strike and lockout activity. Usually the presumed purpose of policy interventions is to reduce work stoppages, though the implicit assumption that the benefits of doing so exceed the costs is rarely examined very closely. Explanations that focus on bargaining power or union militancy typically lead to recommendations for reducing union power. If poor personal relations is an important cause, policies such as preventive mediation, which attempt to improve relations between employer and employee representatives, should reduce the number of work stoppages. Explanations which cite imperfect and asymmetric information typically lead to recommendations for increasing the quality and quantity of information available to the bargaining parties. Emphasis on the joint costs of strikes and lockouts leads to the recommendation of policies that will raise the costs to the negotiating parties of reaching an impasse. These various policy approaches are discussed below.

Lacroix concludes that Canada's relatively high number of strikes and lockouts and the increased incidence of work stoppages over the past 20 years can be explained in terms of increased unionization and several factors relating to the information required of, and available to, the negotiating parties. The openness of the Canadian economy, the importance of cyclically unstable industries such as mining which have high strike/lockout rates, the large number of items covered by North American collective agreements, the decentralized nature of collective bargaining, and the absence of institutional mechanisms for the exchange of information among employers, employees and the union leadership all contribute to a high level of work stoppages compared to that of other countries, which generally do not share all of these characteristics. According to this explanation, the increased extent of strike and lockout activity since the mid-1960s is partly the result of the increased volatility of the economic environment which has been evident over the same period. Canada's strike and lockout activity has increased more than that of the United States because of the greater openness of our economy and our greater sensitivity to fluctuations in resource and commodity prices. In addition, differences in union growth have played a role.

Although more empirical research is needed, the evidence at this stage indicates that these various structural features of the Canadian economy and labour relations system may well contribute to Canada's high levels of strike and lockout activity. Some of these features, such as industrial structure, should clearly not be altered in order to reduce the number of

collective bargaining disputes. Other features, however, may be worth examining to this end. What follows, therefore, is an examination of a number of means of reducing the incidence of work stoppages. Most of these have been mentioned in policy debates.

### ***Policy Issues Relating to Strikes and Lockouts***

Very little is known about the costs to society of strikes and lockouts. Compared to the fairly substantial (though as yet inconclusive) amount of research on the causes of strikes, the consequences have been largely ignored. The conventional wisdom among industrial relations scholars seems to be that the overall economic costs of work stoppages are small (see, e.g., Mitchell, 1981). There are several reasons for this belief. Total working time (and thus income and output) lost owing to strikes and lockouts is small in aggregate, both in absolute terms and relative to other causes of lost working time (absenteeism, workplace injuries and illnesses, and so on). Further, measured lost working time may overstate the total cost to society for several reasons. The firm may produce extra output and the workers earn extra income either before or after a work stoppage. In addition, other firms in the same or in a related industry may increase output and employment as consumers of the product or service switch to alternative sources. These factors reduce the net cost to society. At the same time, a strike or lockout can lead to a reduction in output and employment in other firms — usually suppliers or customers of the affected firm, or suppliers of the employees whose income is temporarily low. This reduced output and income due to a multiplier effect is not counted in the time lost measures. It is thus not clear whether the simple time-lost measures overstate or understate the overall loss in output.<sup>42</sup> In addition, more intangible effects have been mentioned; for example, the effect on investment.

The largest costs may well be associated with the strike threat, rather than the occurrence of work stoppages. Collective withdrawal of labour is the major source of union power. Two key differences between the organized and unorganized sectors of the labour force appear to result primarily from the strike threat. One is a significant wage differential between unionized and comparable non-union workers. The costs to society associated with this union/non-union wage differential are discussed in the ninth section of this overview. The second difference is the widespread use of long-term wage contracts in the union sector. These contracts appear to be favoured by unions and employers in order to reduce the number of opportunities for a work stoppage, which can be costly to both sides. However, the use of long-term fixed wage contracts appears to result in a greater degree of wage and price inertia in the economy. The costs associated with this inertia are discussed in Riddell (1985d).

Clearly there is a need for systematic research on the costs of indus-

trial disputes. In the absence of this information, it seems prudent to investigate the various policy options that have been put forward as means for reducing strikes and lockouts in Canada, though the case for attempting to achieve such a reduction has not been made. The following options are discussed in turn: increased or improved labour-management cooperation and consultation; more centralized collective bargaining structure; shorter contracts; increased or improved legal regulation of strikes and lockouts; and increasing the costs of a work stoppage to the disputing parties. The section concludes with an examination of alternative methods of resolving collective bargaining impasses.

### *Labour-Management Cooperation and Consultation*

Increased cooperation and consultation among management, workers and their union representatives could improve their personal relationship and thus reduce the number of strikes and lockouts associated with this cause. Probably more important, increased sharing of information, expectations and views would bring about a reduction in industrial disputes, according to the information/joint costs perspective.

Improved and increased labour-management cooperation and consultation has at least the potential to confer other important benefits on those directly involved and on Canadian society in general. Because of the importance of this issue, a separate companion volume (Riddell, 1985a) is devoted to the topic. Some mechanisms of labour-management cooperation, such as preventive mediation, involve little change to existing institutional arrangements (though they may well be very effective). Others, such as Quality of Work Life programs and other forms of worker participation in decision making, involve more substantial change. These and other mechanisms discussed in the companion volume would likely bring about some reduction in strike and lockout activity. Though a reduction in conflict would be a desirable outcome, the most important potential benefits of these innovations would be improvements in product quality and productivity (thus leading to higher material living standards) and in the job satisfaction of the work force.

### *More Centralized Collective Bargaining Structure*

The structure of collective bargaining in Canada is highly decentralized and fragmented. Most negotiations occur between an individual union and an individual employer, often at the level of an individual establishment. Many employers deal with several unions in the same establishment. Some analysts have suggested that this fragmentation of bargaining units is one factor accounting for our poor strike and lockout performance, and have proposed the remedy of broader-based bargaining; that is, bargaining on a plant-wide, industry-wide, or even province-wide basis.

Proposals to alter the structure of collective bargaining raise numer-

ous and complex issues which go well beyond the possible effects on strikes and lockouts. For this reason the subject is addressed separately in the seventh section of this overview. That section and Robert Davies's (1985) paper conclude that broader-based bargaining has the potential to reduce strike and lockout activity in some circumstances, but that it is by no means a panacea. Furthermore, changes to the structure of collective bargaining will generally have several other effects which have to be taken into account.

### *Shorter Contracts*

The notion that shorter contracts might reduce strikes and lockouts may seem counterintuitive. Collective agreements with a two- or three-year duration are sometimes seen as a way of avoiding work stoppages. Nonetheless, there are reasons for considering this policy option. Shorter contracts, requiring more frequent negotiations, would allow fewer problems to accumulate during the contract period. Thus, less information needs to be exchanged in order to reach a settlement. Negotiation of such contracts would also be subject to less uncertainty about the future, because economic conditions two or three years ahead are usually much less predictable than those of the next year. There is therefore less scope for divergent expectations. While more frequent negotiations would increase the number of opportunities for engaging in strikes and lockouts, they would also be expected to reduce the probability of a work stoppage in any particular set of negotiations.<sup>43</sup> They would thus have offsetting effects on the extent of strike and lockout activity.

Of course, the higher propensity to strike and lockout associated with longer contracts can be reduced through more frequent contact between labour and management during the contract period; this communication could come about through greater use of joint consultation and other mechanisms for improved labour-management cooperation discussed in the companion volume (Riddell, 1985a). Thus, restricting contract length as a means of reducing strike and lockout activity is not necessarily the only or the preferred option.

Shorter labour contracts have been proposed mainly as a means of reducing the inertia in wage changes in order to decrease cyclical fluctuations in output and employment. A detailed discussion of this issue is contained in Riddell (1985d). There is an argument, at least in principle, for shorter contracts on the basis of the potential macroeconomic benefits, as these benefits are not taken into account by firms and unions in their own private decisions regarding contract length. However, there is no such externality justification in terms of strikes and lockouts. Firms and unions can weigh the costs and benefits of alternative contract durations, including the effect on the probability of a work stoppage.

Interest in this issue led Jacoby and Mitchell (1984) to study the

attitudes of U.S. employers to shorter contracts being imposed by legislation. Employers' views on this proposal were almost uniformly negative. An apparently important part of this negative assessment was the belief of respondents that strikes would increase owing to the increased number of negotiations. In addition, they believed that union bargaining power would be increased by limiting contract length. The employers also indicated that strike costs are non-linear in the sense that a three-month strike every three years is believed to be less costly than a one-month strike every year.

The case for imposing shorter contracts in order to reduce work stoppages is not a strong one. Benefits in terms of reduced time lost due to work stoppages are by no means certain, and even if these occur there are offsetting costs (e.g., higher negotiating costs and possibly more uncertainty associated with more frequent negotiations). These considerations may explain why there appears to be little support for such a policy.

### *Legal Regulation of Strikes and Lockouts*

The right to strike or to lock out is heavily regulated in Canada compared to other countries. This regulation takes three main forms. One, common to most jurisdictions in the postwar period, makes strikes or lockouts illegal during the term of a collective agreement and requires grievance arbitration for resolving disputes relating to the interpretation of that agreement. This situation is different from that in the United States, for example, where the parties are usually free to strike or lock out during the term of a collective agreement or to negotiate an agreement which provides for grievance arbitration of any disputes which may arise. The second regulation relates to disputes which arise in negotiating a collective agreement; it typically requires resort to compulsory conciliation before a strike or lockout can occur. Such provisions have been a feature of Canadian legislation since the early 1900s. In addition to the time requirement of the conciliation process, several jurisdictions impose a "cooling off period," after which a strike or lockout becomes legal, and some jurisdictions provide for the arbitration of a first contract in the event of an impasse. Most jurisdictions also stipulate a mandatory strike vote, which requires that the union members vote in favour of a strike before it can occur. Some jurisdictions also allow the employer the option of requesting a vote on the employer's last offer prior to a strike. Finally, the third form of regulation makes strikes over the issue of union recognition illegal in most jurisdictions. In summary, an array of laws attempts to prevent or postpone the use of economic sanctions.

Most of the legislative changes made to Canadian collective bargaining law in this century appear to have been intended to control or avoid work stoppages. Yet our incidence of collective bargaining disputes is

very high by international standards. This might suggest that our law has been ineffective, perhaps even perverse, in its attempts to reduce work stoppages. This conclusion should not, however, be hastily accepted. It is possible that the level of work stoppages in Canada would have been even higher in the absence of these various regulations controlling the use of the strike or lockout weapon. As discussed above and by Lacroix, a number of factors may account for Canada's relatively high level of work stoppages. Moreover, a recent empirical study has concluded that certain features of Canadian labour legislation had a significant effect on strike incidence (Gunderson, Kervin and Reid, 1985). In particular, compulsory conciliation was found to reduce strike incidence in those jurisdictions and time periods in which that requirement obtained. The effect of compulsory conciliation was found to be stronger when it involved a conciliation board, with its power to recommend a settlement. The requirement for a mandatory strike vote also reduced significantly the probability of a strike, while the cooling-off period and the employer-initiated strike vote tended, if anything, to have a perverse effect on the likelihood of strikes.

The Gunderson, Kervin and Reid (1985) study is the first attempt to assess systematically the effects of Canadian labour relations policies on strike and lockout activity. As such, its findings are of considerable interest. Of course, as with any new study, the findings may be modified in response to subsequent research seeking to replicate their results or test their sensitivity to alternative econometric specifications. The authors utilize the fact that many of the laws respecting work stoppages vary across jurisdictions and over time. (The study covers the period 1971 to 1983.) Thus, the impact of these different policy regimes can be estimated if other factors affecting strikes and lockouts can be controlled for. This qualification is an important one, for our empirical knowledge of the determinants of work stoppages is limited.

The most striking findings in Gunderson et al. are those with respect to compulsory conciliation. Their results are quite consistent with the information/joint costs perspective. Conciliation or mediation is essentially a mechanism for information sharing, and an able conciliator can reduce divergent expectations and elicit information (e.g., about the willingness to make concessions) that the parties may be reluctant to reveal to each other. Further, the conciliation procedure imposes costs on both sides. There is an additional cost associated with the two-stage conciliation procedure involving the board's recommendations — the risk that the recommended settlement may favour the other side. This extra risk could explain the finding that the two-stage requirement was particularly effective in reducing strikes. With respect to their empirical results on compulsory conciliation, Gunderson et al. (p. 26) conclude that "the current trend towards removing the conciliation requirement, in part because of misgivings expressed by practitioners, should be reassessed. The concern of practitioners may be a

sign that the policy is working by increasing the costs to the parties of using the strike mechanism.”

Existing theory and empirical evidence thus suggests that some of the existing labour legislation, such as compulsory conciliation, may well be having its intended effect. Other requirements, such as the compulsory cooling-off period, may be largely ineffective or even perverse, presumably because these requirements are anticipated by the two sides in their negotiations. However, the scope for further legislative initiatives to reduce the incidence of collective bargaining disputes by restraining the parties’ ability to inflict economic damage on each other seems limited. It appears that lower levels of collective bargaining disputes are more likely to result from increased cooperation, consultation and exchange of views and information between labour and management than from additional legislated restrictions on the use of the strike or lockout. Lacroix suggests that measures designed to encourage companies to divulge information relevant to negotiating labour contracts are worth analyzing, a judgment with which I agree.

### *Altering the Costs of a Dispute*

The policies discussed above attempt to improve the quality or quantity of information exchanged in negotiations. An alternative general approach suggested by the information/joint costs perspective is to raise the costs of a work stoppage to the negotiating parties. This can be done in one of two ways: shifting the costs of a work stoppage from affected third parties to the negotiating parties, or raising costs directly.

The costs of some disputes are borne primarily by the two parties involved, in the form of reduced income and profits, so there is little reason for public policy involvement. In other instances, the dispute will result in costs being borne by third parties, often customers or suppliers.<sup>44</sup> Alternatively, there may be costs to society as a whole if the stoppages affect Canada’s reputation as a dependable supplier, or if they change the location and investment decisions of firms. In these circumstances, the social cost of the dispute exceeds the private cost to the negotiating parties. These are the cases in which there is a clearer role for public policy, which could deal with these situations in a variety of ways. One is to require the disputing parties to compensate the affected third parties, thus ensuring that the disputing parties take more fully into account the social costs of their decisions and actions. The principle here is the same as that for correcting any external effect such as pollution. Although this procedure is appropriate in principle, it appears to involve serious practical difficulties. In particular, it is difficult to determine the magnitude of third-party costs and the extent to which a work stoppage was anticipated and the costs internalized *ex ante* by the contracting parties.<sup>45</sup>

An alternative would be for governments to try to reduce the third-

party costs of such disputes. They could accomplish this aim by encouraging competition and thus the availability of substitute goods or services for consumers. This alternative, therefore, has considerable appeal. In some situations, governments are responsible for the erection of barriers to competition in the first place. The postal service provides a useful example here: to allow greater competition in the delivery of mail and parcels would reduce the social costs of labour disputes within the postal system. Indeed, it appears that the third-party costs of a disruption in postal service have declined in the past decade, in part because of the growth of other delivery services.<sup>46</sup>

Permitting freer entry of competitors in products or services granted a monopoly by the state would reduce the social costs of labour-management disputes, and probably also union bargaining power. However, the issue of whether services such as mail, telephone or liquor distribution should be privately or publicly provided will generally be decided on other grounds. The effect on how the costs of work stoppages are distributed among members of society is only one of several factors to be weighed in assessing the appropriate choice.

When labour disputes are significantly affecting third parties and it is neither possible nor socially desirable to encourage competition, governments stand in a difficult position. On the one hand, intervention to end the dispute will undermine the collective bargaining process in the long run. On the other hand, governments will come under severe pressure from the affected public to "do something." Most of these situations occur in the public sector or in the transportation industry. A serious concern is that if a method is not found for dealing with these situations, governments will retreat from the existing right-to-strike provisions and possibly even from the right-to-collective-bargaining provisions.

Governments' current method for dealing with these situations is to allow the dispute to continue until public pressure builds sufficiently to mandate intervention and then to use back-to-work legislation. As Table 1-1 demonstrates, the use of this emergency legislation has been increasing dramatically in recent years. This pattern of response has the unfortunate effect of making such disputes more likely in the future because it reduces the expected cost of the strike or lockout to the negotiating parties. That is, if the firm or the workers expect that they will be legislated back to work, they will anticipate a short strike or lockout that will cost them relatively little. In addition, if the imposed settlement is considered likely to favour one of the two sides, that party will be less willing to make concessions, thus making an impasse more likely. Such expectations are quite reasonable, given the pressures on government and, indeed, their past behaviour. A preferable procedure would be to raise, rather than lower, the costs of disputes to the two parties, thus reducing the likelihood of their occurrence. The procedure

for doing so should be neutral with respect to the bargaining power of the two parties. A number of mechanisms have been suggested to achieve this result. One which has a long intellectual history, though little practical experience, is the statutory or non-stoppage strike proposed originally by Marceau and Musgrave (1949).<sup>47</sup> In this scheme, production would continue but the two parties would make payments into a trust fund that would approximate the losses each would incur due to a work stoppage. Once a settlement is reached, the trust fund could be turned over to the government or a charity, or be divided between the two parties. The incentive to reach a settlement is obviously greater when the government or charity is to receive the proceeds. The main practical difficulty with such schemes is determining the size of the payments each side is to make into the fund. If these "fines" do not reflect the relative bargaining power of each side, the party likely to benefit from the scheme will be less willing to make concessions during negotiations prior to the "non-stoppage."

A variant on the non-stoppage strike proposed recently by Blackorby and Donaldson (1983) would allow the negotiating parties to determine the size of the "fines" to be paid into the trust fund. Under this scheme, instead of a strike or lockout, production would continue and the firm would pay the last wage demanded by the union while the workers would receive the last wage offer made by the firm. The difference would go into the trust fund.<sup>48</sup> If the trust fund becomes part of government revenue, as proposed by Blackorby and Donaldson, the fact that both sides will incur some costs will provide the incentive to negotiate a settlement. Unfortunately, this scheme appears flawed by the fact that each side can impose greater costs on the other, while imposing no additional costs on itself, by making its offer or demand more unrealistic. Until this feature is reversed, the scheme has important drawbacks.

The appeal of "statutory strike" schemes is obvious. A work stoppage brings pressure to settle by imposing costs on both sides. In addition, third parties may bear significant costs. By not ceasing production all of these costs can be avoided. However, in order to maintain the pressure necessary to produce a settlement, the absence of an agreement must impose costs on the negotiating parties. A scheme which simulates these costs but at zero cost to society is obviously preferable to the existing way of resolving disputes. At present, however, such schemes face important practical difficulties.

Given these problems, it is reasonable to ask whether there is a viable alternative to the strike or lockout as a method for resolving impasses in cases where the public interest would be harmed by a work stoppage. The main alternative that has been employed is arbitration.

### *Interest Arbitration*

The use of interest arbitration has grown substantially in Canada over the past 20 years, simultaneously with the growth of unions in the public

and quasi-public sectors. Although its use varies across jurisdictions, arbitration is widely used among hospital workers, police, firefighters, teachers, and government employees. In some instances arbitration is imposed by statute; in others, the parties may choose it and occasionally it is imposed on an ad hoc basis as part of back-to-work legislation in particular disputes. Its two main forms are conventional arbitration, in which the arbitrator chooses an award after hearing arguments and evidence from the two parties, and final-offer arbitration, in which the arbitrator, after receiving briefs and hearing evidence, must choose either the employer's or the union's final offer. Conventional arbitration is by far the most widely employed system in Canada. In the United States there has been more experimentation with final-offer arbitration and its variants.

Arbitration, like the strike or lockout, is intended to be used infrequently, in those circumstances where the two parties were unable to reach agreement.<sup>48</sup> An important consideration, then, is the effect of arbitration on the incentives of each side to make concessions and, ultimately, to converge on a settlement. One concern is that the existence of arbitration as a dispute resolution mechanism would reduce the incentives to reach a negotiated settlement, a possibility referred to as the "chilling effect" of arbitration. This would occur, for example, if arbitrators tended to "split the difference" between the two parties' positions. More generally, the parties may be reluctant to make concessions if some weight is given to their final offers by the arbitrator. Another concern is that with arbitration as the ultimate mechanism for choosing a settlement, one or both parties will simply "go through the motions" and withhold the time and effort required for serious negotiations. Over time, both might rely more and more on arbitration to determine wages and working conditions, a possibility referred to as the "narcotic effect" of arbitration.

Evidence for the validity of these concerns is inconclusive.<sup>49</sup> There is some which suggests that the narcotic and chilling effects may operate. However, there is also conflicting evidence, and there is not complete agreement on the appropriate methodology for testing for these effects. If these effects do occur, however, they occur so slowly and mildly that debate continues on their existence. Thus, there is little evidence to support the view that collective bargaining will disappear when arbitration is available as the dispute resolution mechanism.

Final-offer arbitration has the advantage of offering the disputing parties greater incentives to reach a negotiated settlement, because the more extreme their own final offer, the greater the risk that the arbitrator will choose the other side's final offer. (This claim assumes that the arbitrator chooses the final offer closest to his/her view of an appropriate award, and that the negotiating parties recognize this feature of arbitrator behaviour.) This method, however, has disadvantages as well as advantages. There is a clearly identified "winner" and "loser," and

the arbitrator may be forced to choose between two extreme and unworkable awards. Experience with final-offer arbitration (most of it in the United States) suggests that these negative concerns are largely unfounded, and that a higher proportion of negotiated settlements is achieved under final-offer arbitration than under the conventional type. Nevertheless, experience with final-offer arbitration is limited, and additional experiments will be needed before a more conclusive judgment on the merits of the two types can be reached.

Knowledge of arbitrator behaviour is relevant to the choice between conventional and final-offer arbitration. Numerous analysts have assumed that arbitrators tend to determine a fair or appropriate award based on certain criteria (such as wages of comparable workers, the employer's ability to pay, changes in the cost of living) and that they impose this award in the case of conventional arbitration (possibly giving some weight to the parties' final positions) and choose the final offer closest to this award in the case of final-offer selection. A recent study of arbitrator behaviour (Farber and Bazerman, 1984) indicates that this is a good description of arbitral choice. Farber and Bazerman find that under conventional arbitration the arbitrators are more influenced by the objective factors involved than by the last offers presented by the parties. This suggests there is little risk of a substantial "chilling effect." They also find that arbitrators behave as if they use the same objective factors whether the arbitration system is conventional or final offer. In the latter case, the offer closest to the arbitrator's notion of an appropriate award is chosen. Farber and Bazerman conclude that there is considerable variability across arbitrators in the awards chosen in identical circumstances. Ashenfelter and Bloom (1984) also find considerable "arbitral uncertainty." This uncertainty is important because, if the two parties are risk averse, it provides the incentive to make concessions and possibly reach a negotiated settlement.

These findings reinforce a point made by Crawford (1979). Under arbitration, whether conventional or final-offer, the negotiating parties will focus on what the arbitrator is likely to view as an appropriate award. If there is little "arbitral uncertainty," the arbitrator's notion of an appropriate award becomes the "threat point" in bargaining; neither will agree to an outcome any worse than this award. Thus, if they settle, the outcome negotiated under either the threat of conventional or final-offer arbitration will be dictated by the arbitrator's view of the appropriate award. With uncertainty about the arbitrator's views, risk averse parties become more likely to settle. Even in this case, however, there is reason to believe that the negotiating parties will be substantially influenced by what they think the arbitrator thinks is appropriate. Thus, it is probably accurate to state that the essential difference between negotiating under the strike or lockout threat and under the arbitration threat is that with the former the parties estimate the concession behaviour of

each other based on the costs of a work stoppage to each, while with the latter they estimate what an arbitrator is likely to view a fair settlement.

Another important consideration relating to the use of arbitration is the effect on wages. Evidence on this matter is mixed: several studies show no systematic difference between arbitrated and non-arbitrated settlements, although most indicate a slight upward bias in arbitrated awards (Downie, 1979; Anderson, 1981). In assessing this evidence, we should keep in mind that the existence of arbitration as a dispute resolution mechanism can be expected to change negotiated settlements. As explained above, in the process of negotiation both disputing parties will consider what an arbitrator is likely to deem an appropriate award. Thus, arbitration will affect not only arbitrated awards, but also settlements negotiated under the threat of arbitration. As a result, arbitration could be having an effect on wages even if no systematic difference is observed between arbitrated and non-arbitrated wage settlements.

Debate continues on which factors arbitrators should give the greatest weight in fashioning an award. The main criteria used by arbitrators, in decreasing order of importance, appear to be comparability with wages earned by similar workers, changes in the cost of living, and the employer's ability to pay (Gunderson, 1983; Farber and Bazerman, 1984). Other factors, such as productivity of the work force and the achievement of minimum living standards, appear to receive little weight. The emphasis given to comparability and living costs appears to be greater than that assigned by settlements negotiated under the threat of a strike or lockout. Similarly, arbitrated awards appear to place less emphasis than negotiated settlements on the employer's ability to pay and on productivity.

One criterion for guiding arbitrators that merits more consideration is the use of measures of labour market disequilibrium (Gunderson, 1983). The relative magnitude of queues and shortages can provide valuable information on the extent to which relative wages are too high or too low. Incorporating this type of information is a practical option for injecting more market rationale into the arbitration process.

Canadian experience with arbitration as a dispute resolution mechanism is limited, and the practice is continuing to evolve. Nevertheless, experience to date indicates that arbitration does provide a viable alternative to the strike or lockout in those situations where the third-party costs of a work stoppage are deemed by society to be excessive. Predictions that collective bargaining would wither away with the use of arbitration have not been realized. Wage settlements negotiated under arbitration or under the threat of arbitration are likely to depend more on factors such as compensation comparability and the cost of living, and less on the relative bargaining power of the two sides. Experience to date does not suggest, however, that arbitrated awards are likely, on average, to be excessive. Repeated use of back-to-work legislation is probably

more harmful to collective bargaining than the requirement that disputes be resolved by arbitration.

## ***Summary and Conclusions***

Work stoppages due to labour-management disputes have long been a concern of Canadian policy makers. In the past two decades, this concern intensified as the amount of working time lost due to strikes and lockouts rose to levels which are high by current international and previous Canadian standards. Some have called for radical changes to our labour relations system in order to reduce the level of strikes and lockouts. For these reasons a detailed examination of collective bargaining disputes was carried out here and by Lacroix. A number of conclusions appear to follow from this review.

The amount of strike and lockout activity (in particular, the working time lost) has been considerably higher since the mid-1960s than in earlier periods. The reasons for this change are far from fully understood. Tentatively, the explanation points to a combination of factors — including increased unionization, a more volatile economic environment, in particular highly variable inflation and changing world economic conditions, and the introduction of many new participants in collective bargaining during this period.

The amount of strike and lockout activity is also high by international standards. Numerous factors appear to account for this outcome — the decentralized structure of collective bargaining, the general lack of reliance on joint consultation and other mechanisms for the sharing of information and views and the coordination of expectations, the large number of items covered by collective agreements, and the openness of the economy. Again, our understanding of the contribution of each of these factors and possibly others not mentioned is far from fully understood.

There is no widely accepted, fully articulated, theory of strikes and lockouts. The best general explanation appears to be the information/joint costs perspective. According to this explanation, impasses result primarily from imperfect and asymmetric information. However, the costs of a work stoppage are also important. For a given amount of imperfect and asymmetric information, the probability of an impasse will decrease as the costs of a work stoppage to the two parties increase.

This framework is useful for analyzing existing or potential policies respecting collective bargaining. Policies which increase the quality or quantity of information exchanged in or prior to negotiations or which increase the cost of a dispute to the two parties are predicted to reduce the number and/or duration of work stoppages. A variety of policy options are open. Mechanisms for improved exchange of information and views between labour and management appear particularly promising, and are discussed in a companion volume (Riddell, 1985a). More

broadly based bargaining is discussed in the next section. The scope for improvements from increased regulation of strikes and lockouts appears limited, and some regulations such as compulsory cooling-off periods may have little if any effect. Compulsory conciliation, however, does appear effective, and the trend toward reducing this requirement should be reassessed.

There are several options for reducing the costs borne by third parties to a labour-management dispute. Removing barriers to entry in the production of the commodity or service is an attractive option, but one that raises other policy questions which may be more important than the effects on work stoppages. Requiring disputing parties to compensate affected third parties appears correct in principle but unworkable.

We discussed two alternatives to a strike or lockout. The first, the “non-stoppage strike,” tries to simulate the private costs of a dispute to the negotiating parties at zero social cost. The private costs borne by the employer and employers are thus offset by a gain to others — either to society in general if the revenues accrue to the government or to a charity of the parties’ choice. While attractive in principle, a workable scheme (in particular, one that does not alter the relative bargaining power of each side) has yet to be advanced. The second alternative, interest arbitration, is the main workable alternative. Fears that collective bargaining would wither away when arbitration was the dispute resolution mechanism seem to have been exaggerated. Arbitration, either of the conventional or final-offer variety, appears to be the best available alternative to the strike or lockout in those sectors in which the social costs of a work stoppage are considered excessive.

Little is known about the costs of collective bargaining disputes. Two opposing views about the magnitude of these costs were presented at the beginning of the section. My own assessment is closer to the view that the costs are not substantial than to the opposite view. On average, about 85–90 percent of major collective agreements are settled without a work stoppage. Lost working time is small in absolute terms, and less than that due to workplace accidents, illnesses and absenteeism (though these comparisons are not straightforward). The fact that Canada is one of the most dispute prone of the industrialized nations is perhaps an embarrassment, as well as a paradox in a nation whose people are known for compromise and lack of aggression. This same fact, however, does not appear to be sufficient reason to recommend wholesale change to our industrial relations system.

This does not imply that no change should be contemplated. The fact, for example, that time lost to strikes and lockouts is consistently less than that due to workplace injuries and illnesses does not imply that we could not or should not strive to do better on both. Several of the policies discussed in this section could lead to improvements in our strike and lockout performance.

## The Structure of Collective Bargaining

The structure of collective bargaining in Canada is highly decentralized and fragmented. Most negotiations occur between an individual union and individual employer, often at the level of an individual establishment. Many employers deal with several unions in the same establishment. Some analysts have suggested that this fragmentation of bargaining units is one factor accounting for our poor strike and lockout performance, and have proposed the remedy of broader-based bargaining; that is, bargaining on a plant-wide, industry-wide, or even province-wide basis. Others have suggested that decentralization is an important factor in macroeconomic performance, particularly with respect to inflation and unemployment and the way the economy adjusts to disturbances. For these and other reasons, the structure of collective bargaining is a policy issue which is examined in some detail here and in Robert Davies's (1985) paper in this volume, upon which much of this section is based.

The term "structure of collective bargaining" is usually taken to refer to the range of employees and employers *covered* by a collective agreement, though a definition less focussed on formal structure would refer to employees and employers *affected* by a collective agreement. The latter concept recognizes that through pattern bargaining or other linkages, a number of collective agreements may be grouped together because of their similar nature. The agreements negotiated in the auto industry in North America offer an example. Here, at least until recently, the agreement negotiated with one of the three major auto manufacturers was largely adopted by the others.

By international standards, bargaining structure in Canada is highly decentralized. The most common negotiating structure is single plant/single union bargaining. As a result, there were over 20,000 collective agreements covering Canada's three-and-one-half million union members in 1981 (Kumar, 1985). The situation is illustrated in Davies's Table 4-1, which divides Labour Canada's major collective agreement data among six employer/union-bargaining configurations. These configurations are based on two union characteristics (single union and multi-union) and three employer characteristics (single employer, single establishment; single employer, multi-establishment; and multi-employer).

In this data set, which covers bargaining units with 200 or more employers, about 85 percent of units covering 69 percent of workers bargain with a single-employer/single-union structure. Almost half the units employ single-establishment/single-employer bargaining. About 40 percent of units and 51 percent of workers are covered by multi-establishment units. Only about 8 percent of units covering 25 percent of the workers bargain under multi-employer structures, and most of these are confined to a single province. These data probably understate

the degree of decentralization characteristic of Canada's entire unionized labour force, primarily because bargaining units covering fewer than 200 employees are excluded. By way of contrast, multi-employer bargaining structures are the dominant form in most European countries. In addition, in many of these countries bargaining is typically industry-wide, at either the national or regional level.

Although clearly difficult concepts to measure precisely, Davies (Figure 4-2) classifies fourteen countries according to the "degree of centralization" and "level of bargaining" (national, industry or region, or enterprise). Canada and the United States are at one extreme in this classification — the lowest degree of centralization and, with Japan, dominated by bargaining at the enterprise level.<sup>50</sup>

The variation in bargaining structures across broad industry classifications is shown in Davies's Table 4-2. Multi-employer bargaining structures dominate only in the fishing industry. Single-union/single-establishment bargaining is most common in forestry, mining and manufacturing, while single-union/multi-establishment structures are most common in transport and communications, trade and finance, and services and public administration. Substantial variation also exists within these broad industry classifications. Sectors such as manufacturing, transport and communications, trade and finance, and services, though dominated by single-employer bargaining, also contain significant elements of multi-employer bargaining. Multi-union bargaining is rare. There is some in the service sector, mainly involving school boards and hospitals, especially in Quebec. In transport and communications, multi-union negotiations are common in the railways.

There are important differences across jurisdictions in bargaining structure. As Davies's Table 4-3 indicates, both multi-employer and multi-union bargaining is more common in British Columbia and Quebec than in the rest of Canada. These differences result in part from the legislative approaches taken in these two jurisdictions.

Since the mid-1960s, multi-establishment bargaining has become more important relative to single-establishment bargaining, at least among units with 500 or more workers (Davies, Table 4-4). Much of this change results from the growth of public sector unions, because multi-establishment bargaining is common in this sector. However, multi-establishment bargaining has also increased within most industries (Davies, Table 4-5). Multi-employer bargaining, in contrast, has shown no evident trend. Its importance has increased in some industries and decreased in others. The intertemporal changes shown in Davies's Tables 4-4 and 4-5 result from changes both in the composition of the major collective agreements data and changes in the collective bargaining structure of units contained in the data throughout the period. Thus some care is required in interpreting these statistics.

Recently, centralized bargaining structures have been breaking down

in several countries. In the United States there has been a decline in pattern bargaining in automobiles, steel, rubber, trucking and meatpacking. There has also been a movement toward more decentralized formal bargaining structures. These institutional changes appear to be a response to the severe recession of the early 1980s, deregulation in several industries, and increased competition from non-union firms and foreign suppliers. In Canada, centralized bargaining structures have been breaking down in meatpacking, construction (particularly in western Canada), and in the British Columbia forest products industry. The changes occurring in the public sector in Quebec are also moving in this direction. This trend toward more decentralized bargaining structures is not simply a North American phenomenon. Centralized bargaining appears also to be breaking down in the United Kingdom, Sweden, Germany and Japan. Only in Australia is some strengthening of national bargaining occurring.<sup>51</sup>

### ***The Determinants of Bargaining Structure***

In Canada the structure of collective bargaining is determined, initially at least, by the relevant Labour Relations Board's decision as to what constitutes an appropriate bargaining unit. The constitutional division of authority over labour relations thus tends to result in a decentralized bargaining structure. Outside of the federal jurisdiction, it is generally not possible to establish national bargaining units, at least in a formal legal sense.

The Labour Relations Board's (LRB) choice of an appropriate certification unit is based on a number of factors including the degree of community of interest among members (and thus, presumably, the degree of homogeneity of members' preferences), historical precedent, and the anticipated stability of the resulting union-management relationship. In addition, the LRBS are charged with facilitating the employees' desire for collective bargaining representation. As Davies notes, this tends to result in certification along single-employer/single-establishment lines.

For these reasons, the initial bargaining structure tends to be highly fragmented. Negotiations may be carried on directly between the certified bargaining unit and the employer. Alternatively, through the formation of a council of unions and/or the accreditation of a group of employers, when permitted by the law, the structure of collective bargaining may become more centralized. Such formal centralization is typically confined to occurring within jurisdictions. Similarly, the forging of linkages across bargaining units may result in a more centralized informal bargaining structure.

Legislation may also encourage more centralized structures within the jurisdiction. This can be incorporated in the certification process, or

carried out subsequently. An example of the former is the Nova Scotia “Michelin Bill,” which requires that certification involve all plants of multi-establishment firms operating within the province. This requirement will also typically affect the probability of certification.<sup>52</sup> An example of the latter is the British Columbia Labour Code which allows the provincial LRB to create councils of trade unions when the board believes that to do so would be in the public interest. Provincial legislation also facilitates accreditation of multi-employer bargaining agents. In several other jurisdictions, such accreditation has been encouraged in the construction industry.

Subsequent to certification, and subject to the limits imposed by the law, either of the negotiating parties could attempt to move toward more centralized collective bargaining structures. The preferences of employers and unions for single-plant, multi-plant or multi-employer bargaining, as well as their ability to bring about their preferred structure, depend on a host of complex factors discussed by Davies (1985) and Hendricks and Kahn (1984). In addition to negotiation costs and the costs of administering collective agreements, there are numerous considerations relating to the bargaining power of each side. Centralized bargaining will reduce negotiation and administration costs per union member if there are economies of scale in data analysis for collective bargaining purposes, the purchase or administration of fringe benefits, research (for example, safety experiments), and so on. Multi-employer bargaining eliminates “whipsawing,” the union tactic of negotiating with one firm in an industry to obtain an advantageous collective agreement, which is then used as a benchmark when dealing with other employers. For this reason, multi-employer bargaining is often believed to increase the bargaining power of employers. However, multi-employer bargaining requires coordination among firms, which may increase the costs of negotiations and may prove difficult to achieve in some circumstances. In addition, if product costs or market conditions differ across firms, some firms may believe that multi-employer bargaining would place them at a competitive disadvantage. Coordinated bargaining is more likely to lead to greater similarity of wage rates across firms, as unions attempt to “take wages out of competition.” These and other factors, and the empirical evidence on their importance, are reviewed by Davies (1985).

### ***The Consequences of Alternative Bargaining Structures***

As noted earlier, the division of authority over labour relations facilitates experimentation with alternative policy regimes. One evident case of experimentation is in the area of encouraging more broadly based bargaining. The example of British Columbia was noted above, as was the case of the construction industry in several provinces. Quebec has

experimented with sectoral negotiations. In the public sector, multi-establishment or province-wide bargaining have been employed in several jurisdictions. Thus there has been a reasonable amount of variation in policy respecting bargaining structure, from which we may be able to learn.

At the outset it should be noted that there are serious problems in separating the effects of differences in bargaining structure from those of other factors. Most of the Canadian evidence (e.g., Gallagher and Wetzel, 1980; Rose, 1980; Strand, 1984) comes from case studies. Although highly informative, such studies rely on the judgment of the authors in determining the impact of bargaining structure. Econometric studies, which attempt to provide a more "scientific" basis for the judgment, have their own problems.

What does appear clear is that more broadly based bargaining has both costs and benefits. There will be a reduction in the number of separate agreements to be negotiated. Negotiations may be carried out by more skilled and experienced negotiators, with greater access to research staff. However, negotiations will be more complex and may take longer. Input from local union and management representatives will generally be reduced, and the resulting agreement is thus expected to be less sensitive to local concerns. The scope of bargaining may be reduced, leaving other issues to be settled at local levels. These various predictions are generally borne out by the Canadian case studies. The reduction in local autonomy and input into the bargaining process is evidently one of the more serious costs of centralized structures.<sup>53</sup> The importance of this depends on the variation in relevant product and labour market conditions across individual employers (or enterprises) and groups of employees. The recent tendency for multi-employer bargaining to break down appears to be associated with an increased variation of product and labour market conditions across employers owing to the severe recession.

The consequences of more centralized bargaining for strike and lock-out activity is of considerable interest. As noted in the previous section, more broadly based bargaining has often been recommended primarily as a means of reducing industrial disputes. There are several arguments behind such recommendations. More broadly based bargaining obviously reduces the number of opportunities for strikes or lockouts to occur by reducing the number of separate sets of negotiations. If a work stoppage does occur, however, it will involve more employees and if it involves industry-wide or province-wide bargaining, more employers. Thus, while broadening bargaining should reduce the number of work stoppages, the effect on time lost to work stoppages is less clear. There is also the possibility that the increased access to research and data analysis generally associated with more centralized bargaining will reduce imperfect and asymmetric information, and thus make impasses less likely. The observation that, with more centralized bargaining, a work

stoppage would generally involve more employees and employers has been used to predict a reduction in strike and lockout activity. This hypothesis, which is based on the effect of bargaining structure on the joint costs of a work stoppage, is clearly stated in the *Financial Post* editorial quoted earlier:

If there were more industry-wide bargaining, there would be more pressure on both sides to reach agreement: the employers because a strike would halt *all* their operations; the unions because a strike would put *all* the workers in that industry on the street. Federal and provincial labor boards should consider revising bargaining units to facilitate industry-wide, plant-wide or provincial-wide bargaining — whichever makes most sense for particular situations.

At first glance, international comparisons do seem to support the view that more centralized collective bargaining structures will reduce the number of strikes and lockouts. Countries with centralized bargaining systems, such as Austria, Norway, Sweden, Germany and the Netherlands, have also been characterized by a low incidence of strikes and lockouts. France, Italy, the United Kingdom, the United States and Canada, which have less centralized bargaining systems, are characterized by relatively high levels of collective bargaining disputes, as Davies's Table 4-7 shows. However, the countries with centralized bargaining systems also have other characteristics which contribute to their low incidence of strikes and lockouts. These attributes include highly developed welfare states, high levels of unionization, a labour movement with significant political influence, and extensive use of tripartite consultation on economic and social policies.<sup>54</sup> Further, as Lacroix notes, the scope of collective agreements in these countries is less extensive than in Canada; that is, many non-wage benefits are regulated by the state rather than negotiated with employers. For these reasons, it would be dangerous to conclude from the cross-country differences that changing bargaining structure alone would lead to significant reductions in work stoppages.

The more relevant consideration in the Canadian setting is whether a marginal increase in centralization would lead to reduced strike and lockout incidence. Most of the evidence relevant to this issue comes from case studies.<sup>55</sup> The experience of the construction industry in several jurisdictions is examined by Rose (1980), the Quebec experience with sectoral negotiations in the public sector by Hébert (1984), and the British Columbia experience with the creation of union councils by Strand (1984).

These studies, which are discussed in more detail by Davies, indicate that more broadly based bargaining can produce desirable results in some circumstances but that the opposite can also occur. The evidence from the construction industry experience is equivocal, with consolidation initially tending to raise time lost to work stoppages but leading to

greater stability subsequently. This outcome is consistent with the view that more broadly based bargaining in an industry will lead to a new equilibrium situation with lower strike/lockout propensity, but that the structural change will involve a transition period of possibly higher levels of conflict owing to the increase in imperfect information which accompanies changing any institutional arrangement.

The Quebec experience with sectoral negotiations is almost uniformly negative, especially regarding consequences for conflict (Hébert, 1984). A clear danger of broadly based structures, especially in the public sector, is the politicization of bargaining. In addition, the loss of power at the local level can result in wildcat strikes, an aspect of centralization also noted by Stern and Anderson (1978) in their study of the 1975 postal strike. The British Columbia experience with selective intervention to create more broadly based structures is generally favourable (Strand, 1984). However, as recent developments indicate, these structures are fragile.

More centralized bargaining will also have important effects on wage and non-wage bargaining outcomes. Multi-employer bargaining prevents "whipsawing" by unions and raises the cost of a work stoppage to the union members. The costs of a work stoppage to each individual firm may be lower, because, with the entire industry shut down, firms will not lose market share to competitors. For these reasons multi-employer bargaining is expected to shift bargaining power in favour of employers, resulting in lower wage settlements. Rose's (1980) study of the construction industry appears to confirm this expectation. The econometric evidence, most based on U.S. and U.K. data, also supports this proposition, although there is some contrary evidence (Davies, 1985). Centralized bargaining will also generally lead to more standardization of wage rates and fringe benefits across firms, regions, and groups of employees (depending on the nature of centralization). This will tend to interfere with the optimum use of the economy's labour resources, which requires that wage rates reflect differences in marginal productivity affecting labour demand and differences in employee preferences affecting labour supply (differences in the cost of living, training and skill requirements, pleasantness of the work environment, and so on).

Centralized bargaining would also have consequences for macroeconomic performance, particularly regarding inflation and unemployment. I will not discuss these aspects here, for they are addressed in detail in Riddell (1985d). Robert Davies's paper also notes some of the issues relating to macroeconomic adjustment.

## ***Summary and Conclusions***

The structure of collective bargaining has several implications for labour relations and overall economic performance. The initial legal decision regarding the appropriate certification unit affects whether collective

bargaining will be chosen by the members of the unit, the nature of the union which (and, in contested cases, which union) will represent them if collective bargaining is chosen, the diversity of the membership, and the cost of labour negotiations to the firm. The degree of centralization which results from the certification decision or from the formation of coalitions of firms and/or unions has implications for the extent of representation of local union and individual plant or firm interests, the wage and non-wage outcomes of collective bargaining, the number of days lost to work stoppages, and macroeconomic performance.

Close examination of these policy issues reveals that there are important tradeoffs involved in more centralized bargaining. Even for one of the most widely cited advantages, a reduction in strike and lockout activity, there are tradeoffs. There will be fewer and possibly shorter strikes and lockouts, but when these do occur they will involve a larger number of employers and employees, will be more costly to third parties, and may as a result invite political intervention. Other disadvantages of centralization include increased standardization of wages and benefits across units and reduced local autonomy and participation in the collective bargaining process, possibly resulting in increased intraorganizational conflict. Advantages include a reduction in the number of separate sets of negotiations and thus possibly a reduction in the costs to both sides of negotiating and administering collective agreements. In addition, multi-employer bargaining can be effective in controlling inflationary wage settlements in industries characterized by many small employers and little non-union competition.

These considerations suggest that centralization falls well short of being a costless solution to our industrial relations ailments. However, the experimentation with more broadly based bargaining in the past two decades has resulted in some important lessons. The predominantly unfavourable Quebec experience with sectoral negotiations in the public sector is one from which other jurisdictions can learn. The generally favourable experiences with broader-based bargaining in the construction industry in several jurisdictions and in several industries in British Columbia do point to the potential benefits in certain circumstances.

As Davies notes, consolidation of bargaining units within establishments appears to be the policy intervention with the greatest promise. The experience with industries such as construction, shipyards and railways which are characterized by craft fragmentation supports this assessment. The additional costs of intraorganization conflict appear to be more than offset by the benefits. Such consolidation may also facilitate adjustment to technological change, allowing separate crafts to share the economic benefits which flow from new task and skill requirements.

## **Occupational Health and Safety**

Much of labour-management relations is concerned with the determina-

tion of wages, benefits and working conditions. One of the most important aspects of working conditions is the safety of the workplace. This section discusses aspects of workplace health and safety in Canada, drawing on Digby and Riddell (1985).

Interest in occupational health and safety has increased substantially in Canada — and elsewhere — since the early 1970s. Much of the concern relates to the use of toxic substances in the workplace, parallelling related fears such as those regarding the use of pesticides in the production of food and the effect of industrial chemicals on the environment. In response to these concerns, there have been a series of studies, commissions and inquiries and significant policy initiatives. Indeed, a new approach to dealing with workplace health and safety in Canada has begun to take shape. Unfortunately, as Digby and Riddell (1985) explain, very little appears to be known about the consequences of these policy initiatives. Data limitations are one important cause of this lack of knowledge.

The information that is available suggests that Canada's performance with respect to workplace injuries and fatalities is poor by international standards (Digby and Riddell, Tables 6-2 and 6-3). However, there are very significant differences across countries in the definition and measurement of workplace injuries and deaths. The extent to which Canada's relatively high injury and fatality rates reflect differences in definition and measurement on a more dangerous workplace remains unknown.

Comparisons over time are also limited by data considerations. There is evidence of a significant decline in the fatality rate since 1970. Almost all this decline can be attributed to the reductions in fatalities within each industry rather than to the changing industrial composition of employment. The injury rate has not exhibited a similar favourable trend; rather, it has been roughly constant since the early 1970s. Disabling injuries have increased somewhat as a proportion of all injuries.

Intertemporal and intercountry comparisons are common benchmarks for evaluating performance. Also informative is a comparison with other sources of lost working time and thus reduced output of goods and services. Since 1970 working time lost due to occupational injury and illness has averaged about 0.5 percent of working time, and has consistently exceeded that due to strikes and lockouts which, as discussed earlier, averaged about 0.3 percent of working time. Both are small in comparison to estimates of time lost due to absenteeism (including non-occupational illness and injury), which exceeds 3 percent of working time (Canada, Department of Labour, 1983, p. 47).

However good or bad we judge past performance, the central issue is how to do better in the future — with respect both to prevention of injuries and illness and to compensation when these occur. Three mechanisms for dealing with workplace health and safety are examined by

Digby and Riddell: the market mechanism, internal regulation by labour and management, and external regulation by government agencies. In their view, each has a role to play in the prevention of and compensation for workplace injuries and illnesses. The issue is how to maximize the contribution of each rather than which should be extensively relied on.

The market mechanism works through compensating wages for hazardous work. These higher wages provide employers with the incentive to reduce the risk of workplace injury, for doing so will reduce labour costs. In addition, these wage differentials provide *ex ante* compensation for the risk of injury. The key to the efficient operation of market forces is adequate information — both on the part of employees regarding the risks associated with particular jobs, occupations and workplaces, and on the part of employers with respect to the costs of alternative means of increasing workplace safety. When there is asymmetric or imperfect information, market forces may not yield an optimal level of workplace health and safety. Indeed, with asymmetric information, compensating differentials can have a perverse effect — providing employers with an incentive not to reveal the true dangers to its employees.

Internal regulation involves collaboration and cooperation between employers and employees — usually through joint committees — to increase safety and health in the workplace. This particular approach has exhibited considerable development in Canada in the past decade. Beginning with legislation introduced in Saskatchewan in 1972, joint health and safety committees and other features of the “internal responsibility system” are now required or encouraged in most jurisdictions. Prior to these legislative initiatives, joint committees were confined mainly to unionized firms and operated under the collective agreement.

The details of the internal responsibility system are discussed by Digby and Riddell. Two general observations are noted here. First, this approach substitutes a collective choice mechanism for health and safety decisions for the individual choice characteristic of market forces. This previously existed in the unionized sector, where union representatives articulate the group preferences of the work force with respect to health and safety as well as other working conditions. Legislation requiring joint committees and granting responsibility and authority to those committees extends the use of collective choice mechanisms to the non-union sector, as well as strengthening their use in the organized sector. This feature is important because collective choice mechanisms may be preferable in certain circumstances — in particular, when working conditions have public good characteristics. Just as we as a society may be made better off by having decisions with respect to national defence or police protection determined by collective choice, employers and employees as a group may be better off determining safety conditions collectively. This aspect is discussed in more detail in the next section.

Second, legislation requiring joint health and safety committees and granting decision-making authority to these committees may provide a general model of employee participation in enterprise decisions — an approach which may be used in other areas such as adjustment to technological change, employment sharing, and pension-fund management. This model is discussed in detail in Adams (1985), who advocates its more widespread use, and in the overview paper in Riddell (1985a).

The third mechanism involves government regulation-setting standards, inspecting workplaces, monitoring compliance, and so on. Reliance on the internal responsibility system — and on market forces — implies a smaller role for government regulation. Nonetheless, an important role remains, particularly with respect to health as opposed to safety. In addition, government officials may resolve differences between employers and employees when the internal responsibility system reaches an impasse.

Little evidence exists on the extent to which these three mechanisms have improved workplace health and safety in Canada. One unpublished study (Hinton, 1980) found significant compensating earnings differentials associated with hazardous work in Ontario. The existence of these earnings differences is necessary although not sufficient for the efficient operation of market forces. No studies of the effects of the legislative initiatives undertaken since the early 1970s — in particular those with respect to the internal responsibility system — seem to have been carried out.

Although little appears to be known about the costs and benefits of alternative mechanisms for dealing with workplace safety and health, continued experimentation with the internal responsibility model is the option recommended by several observers, including Digby and Riddell (1985). Their paper discusses three additional options which may lead to improved performance in this important area: strengthened economic incentives, data collection and research on the consequences of alternative approaches, and consideration of new approaches to the problem of industrial disease.

Numerous empirical studies have examined the relationship between earnings and job-related risk in the United States, the United Kingdom and elsewhere. Significant wage differentials are typically found to be associated with the risk of fatal injury. The results with respect to non-fatal injury and illness are less clear, with several studies finding insignificant and even negative wage differentials. If compensating differentials exist for non-fatal injuries, they are evidently not large enough that the studies can consistently distinguish them from the many other forces affecting earnings. The fact that workers' compensation provides *ex post* compensation for non-fatal injuries could be one factor accounting for these small compensating differentials. By replacing the tort liability system with a no-fault insurance scheme, the operation of market forces

may be dulled. For this reason, it is important that the financing of workers' compensation provide economic incentives for employers to reduce workplace hazards. These incentives can be achieved by a high degree of experience-rating in the premiums used to finance workers' compensation.

Workers' compensation was introduced in the early part of this century largely because the requirement that the employee prove that an injury or illness was the employer's fault was too onerous to receive compensation in the vast majority of cases. The long latency periods associated with diseases such as cancer and asbestosis, and the virtual impossibility, with existing medical knowledge, of determining whether the workplace is the cause of the disease, imply that the employee is in a comparable position with respect to industrial disease. A general no-fault disability scheme for dealing with this difficult problem deserves consideration.

Finally, the dearth of empirical studies of the effects of alternative policy approaches to workplace health and safety is shocking given the evident importance of the subject. Each approach has its costs and benefits, and it is not obvious on a priori grounds what combination of the three mechanisms — competitive market forces, the internal responsibility system, and government regulation — is socially optimal. Earlier in this overview paper I noted that one of the advantages of Canada's division of powers over labour relations is that it facilitates experimentation with alternative policy approaches. This is obviously of limited value if little is learned from the experiments that are carried out. The division of authority need not, and should not, inhibit data collection and research on these important issues.

## **Unions, Collective Bargaining and Society**

The mechanism by which the wages and other employment conditions of the labour force are determined is clearly one of the most fundamental choices for a society to make. The mechanism will affect the total income and wealth generated by the economy and the distribution of that income and wealth among members of society.

Canadian labour policy allows employees to choose that mechanism on a group or collective basis. If a majority of the employees choose to be represented by a union, then wages and other conditions of employment will be determined by collective bargaining for all members of the certified bargaining unit. If a majority do not wish to be represented by a union, employees can negotiate on an individual basis with the employer or accept the conditions unilaterally set by the employer subject to market forces. In Canada, as discussed earlier, about half the paid employees legally eligible for unionization have their wages and employment conditions determined by collective bargaining.

This labour policy has not existed throughout Canada's past. This paper has already described the evolution of Canadian labour policy, from a stance generally antagonistic toward unions and collective bargaining to a generally supportive and facilitating position. It was also noted that legislative initiatives, and presumably the social attitudes that provided the foundation for these initiatives, appeared to result from a somewhat uncomfortable mixture of attempting to control or limit work stoppages and providing an environment favourable to collective bargaining. In short, Canada embraced a policy favourable to collective bargaining somewhat hesitantly.

Although unions and collective bargaining play an important role in Canada today, they have never been enthusiastically accepted in all segments of society. Unions, in particular, have been criticized by both those on the political right and left.<sup>56</sup> As noted earlier, opinion polls indicate that sentiment toward unions is less than overwhelmingly favourable among both union and non-union households.

Most of this paper has been concerned with analyzing our industrial relations system and its performance, taking as given the basic policy of facilitating union representation and collective bargaining for those groups of employees that prefer this mechanism for determining wages and other employment conditions. This final section examines the rationale behind this policy. This involves assessing not only what role unions and collective bargaining *do* play in society but also what role they *should* play, and how this outcome can be achieved.

Assessing the role unions and collective bargaining should play in society raises highly sensitive and controversial issues. In reaching such an assessment, personal value judgments are important. It is important, therefore, that the basis for any judgment be laid out clearly at the outset.

I will emphasize three outcomes: individual freedom, the overall level of individual (or family) well-being or satisfaction, and the distribution of well-being among members of society. Unions and collective bargaining *per se* have no necessary importance in this scheme; they are important to the extent that they contribute to greater individual freedom, higher overall levels of well-being, and a more equal distribution of well-being among members of society.

The relationship between unions and individual freedom is complex. The right to organize and act collectively is viewed by many as a hallmark of a democratic society. As stated by Oberer and Hanslowe (1972, p. 42): "One way of defining a free society may indeed be: a society the members of which are free to assert their individual interests collectively." There are, however, potential conflicts between individual rights and collective rights, as noted earlier in the discussion of the Charter of Rights and Freedoms. These tradeoffs arise in any form of

collective action — in the relationship between citizen and state as well as between individual worker and union.

The term well-being or satisfaction — what economists call “utility” — is used deliberately to indicate that both material and non-material aspects of individual welfare are important. Needless to say, the non-material aspects are more difficult to measure and therefore incorporate in any overall assessment, but this fact should not cause the weight given to them to be any less.

Before discussing the pros and cons of unions and collective bargaining, it is worthwhile examining the history of our stated policy in this area. A major turning point in the evolution of labour policy in North America began with the Great Depression and the New Deal policies in the United States. During the Depression the view developed that wage decreases would lead to reduced consumption and thus exacerbate and prolong a recession. According to this view, maintaining or even increasing wages was the appropriate antidote for an economic downturn. This policy was the basis for U.S. President Hoover urging firms not to cut wages at the beginning of the Depression and for the National Industrial Recovery Act (1933), which promoted price-fixing practices by firms, set minimum wages, and encouraged collective bargaining to promote downward wage rigidity. At the bottom of a severe recession, wage increases developed as a result of these policies (Mitchell, 1985). The NIRA was declared unconstitutional two years later; however, this wage-consumption theory lived on in the National Labour Relations Act (the Wagner Act of 1935). The preamble to this legislation states certain “findings and policies,” including:

1. the inequality of bargaining power between big employers and individual employees tends to aggravate recurrent business depressions by depressing wage rates and the purchasing power of wage earners and prevents the stabilization of competitive wage rates and working conditions within and between industries;
2. experience has shown that protection by law of the right of employees to organize and bargain collectively safeguards commerce, promotes free flow of commerce by removing certain recognized sources of industrial strife and unrest and restores equality of bargaining power between employers and employees;
3. the denial by employers of the rights of employees to organize and the refusal by employers to accept the procedure of collective bargaining leads to strikes and unrest which obstructs commerce.

Thus, a key part of the rationale for the change in U.S. labour policy from one largely antagonistic to unions and collective bargaining to one of encouragement was an economic theory which would receive little support (indeed, would meet with considerable skepticism if not derision) among economists today.<sup>57</sup>

As noted earlier, the Wagner Act had a major influence on the Canadian labour policy which emerged in the 1940s. The Wagner Act's rationale in terms of promoting wage rigidity by encouraging collective bargaining was not, however, stated in P.C. 1003 or in subsequent labour legislation. Indeed, the rationale for these legislative initiatives was generally left to be inferred. As discussed earlier, concern over work stoppages during the war period was evidently the major factor, a factor which was also cited in the preamble to the Wagner Act. The 1968 Task Force on Labour Relations recommended that:

In order to encourage and ensure recognition of the social purpose of collective bargaining legislation as an instrument for the advancement of fundamental freedoms in our industrial society, we recommend that the legislation contain a preamble that would replace the neutral tone of the present statute with a positive commitment to the collective bargaining system.<sup>58</sup>

The federal and several provincial jurisdictions have subsequently included in their statutes such "positive commitments." For example, the Canada Labour Code states in part:

Whereas there is a long tradition in Canada of labour legislation and policy designed for the promotion of the common well-being through the encouragement of free collective bargaining and the constructive settlement of disputes;

And whereas Canadian workers, trade unions and employers recognize and support freedom of association and free collective bargaining as the bases of effective industrial relations for the determination of good working conditions and sound labour-management relations;

And whereas the Parliament of Canada desires to continue and extend its support to labour and management in their co-operative efforts to develop good relations and constructive collective bargaining practices, and deems the development of good industrial relations to be in the best interests of Canada in ensuring a just share of the fruits of progress to all. . . .

Although such statements are undoubtedly useful as indications of good intentions, and may even generate a warm glow among some readers of the act, they are relatively uninformative about the means by which collective bargaining is to bring about "the promotion of the common well-being" and "a just share of the fruits of progress to all." To shed some light on this important question, it may be helpful to examine what social scientists have learned about the consequences of unions and collective bargaining.

Most assessments of the impact of unions and collective bargaining distinguish between their consequences for economic outcomes (wages, employment, income, and so on) and their broader social and political consequences. Impartial assessments also stress that unions have both costs and benefits for society. For example, Albert Rees (1977,

pp. 186–87), an eminent labour economist, summarized his views on the role of unions in American society as follows:

If the union is viewed solely in terms of its effect on the economy, it must in my opinion be considered an obstacle to the optimum performance of our economic system. It alters the wage structure in a way that impedes the growth of employment in sectors of the economy where productivity and income are naturally high and that leaves too much labour in low-income sectors of the economy like southern agriculture and the least skilled service trades. It benefits most those workers who would in any case be relatively well off, and while some of this gain may be at the expense of the owners of capital, most of it must be at the expense of consumers and the lower-paid workers. Unions interfere blatantly with the use of the most productive techniques in some industries, and this effect is probably not offset by stimulus to higher productivity furnished by some other unions.

Many of my fellow economists would stop at this point and conclude that unions are harmful and that their power should be curbed. I do not agree that one can judge the value of a complex institution from so narrow a point of view. Other aspects of unions must also be considered. The protection against the abuse of managerial authority given by seniority systems and grievance procedures seems to me to be a union accomplishment of the greatest importance. So too is the organized representation in public affairs given the worker by the political activities of unions. If, as most of us believe, America should continue to have political democracy and a free enterprise economy, it is essential that the great mass of manual workers be committed to the preservation of this system and that they should not, as in many other democracies, constantly be attempting to replace it with something radically different. Yet such a commitment cannot exist if workers feel that their rights are not respected and they do not get their fair share of the rewards of the system. By giving workers protection against arbitrary treatment by employers, by acting as their representative in politics, and by reinforcing their hope of continuous future gain, unions have helped to assure that the basic values of society are widely diffused and that our disagreements on political and economic issues take place within a broad framework of agreement. If the job rights won for workers by unions are not conceded by the rest of society simply because they are just, they should be conceded because they help to protect the minimum consensus that keeps society stable. In my judgment, the economic losses imposed by unions are not too high a price to pay for their successful performance of this role.

There are two points to note about this summary. First, there is the claim that the economic effects of unions are largely negative for society but that they are offset and probably outweighed by positive non-economic benefits. Second, this quote from the 1977 edition of Rees's classic study is identical to that in the original (1962) edition. It is not surprising that Rees's assessment was unaltered. During the intervening period the study of trade unions was substantially neglected by economists (Johnson, 1975).

In the past decade, however, there has been a considerable amount of research on the economic effects of unions and collective bargaining. An important part of this research, carried out by Richard Freeman and James Medoff and summarized in their 1984 book *What Do Unions Do?*, examined a wide range of non-wage outcomes of unions and argued a more positive case for unions and collective bargaining than that implied by Rees's conclusion. This research (and some other arguments) has been used to justify a major restructuring of U.S. labour law in an attempt to stem the decline in unionization in that country (e.g., Weiler, 1983, 1984).

Unfortunately, very little research on the non-wage effects of collective bargaining has been carried out in Canada. The reader of this overview paper will realize that this situation is not unique to this particular subject. Nonetheless, the fact that we will have to rely on U.S. evidence in important parts of what follows is worth noting. As noted earlier, unions in the United States have been subjected to significantly greater economic and market pressures than in Canada. Some of the beneficial consequences of U.S. unions found by Freeman and Medoff (e.g., the effects on productivity discussed below) may be a response to the substantial non-union competition in that country. The extent to which U.S. research findings generalize to other settings is an open and important question.

The effect of unions on wages has been extensively studied. Table 1-9 summarizes the various Canadian studies. The union wage effect is usually expressed in terms of the union/non-union wage differential, the wage difference between unionized and "comparable" non-union workers. The concept is similar to the private/public sector wage differential discussed earlier. Although there is considerable variation in the magnitude of these estimates, reflecting different data sources, time periods and methodologies, the empirical studies indicate that there is a significant difference between the wages of union and comparable non-union workers. For the economy as a whole, the union/non-union differential appears to be approximately 15–20 percent. It varies considerably across occupations, industries and other classifications of workers.

Many of the "obstacle(s) to the optimum performance of our economic system" noted by Rees result from the union wage effect. The fact that this effect is far from trivial implies that these obstacles may be important ones. The union wage effect results from the fact that collective action (the strike threat) is more powerful than individual action (the quit threat). In the unorganized sector, employees who are dissatisfied with their wages and working conditions can threaten to quit. The firm is constrained by market forces to offer a package of wage and employment conditions that will attract and keep sufficient workers. By acting collectively, unionized workers can do considerably better than this.

**TABLE 1-9 Estimates of the Union/Non-Union Wage Differential in Canada**

Author	Time Period	Estimated Differential (%)	Characteristics of Sample; Other Comments
1. Kumar (1972)	1966	17-23	Unskilled workers in manufacturing; aggregate data
2. Starr (1973)	1969	10-15	Unskilled male workers in Ontario manufacturing; disaggregate data (base wage rates at plant level)
3. Grant and Vanderkamp (1980)	1971	15	Individual data; "union member" includes membership in professional associations
4. MacDonald and Evans (1981)	1971-76	16	Aggregate industry data; 30 manufacturing industries
5. MacDonald (1983)	1971-79	19-20 (average over time and skill groups): skilled 22 semiskilled 16 unskilled 25	Aggregate industry data; 30 manufacturing industries
6. Grant, Swidinsky and Vanderkamp (1983)	1969-71	20-25	Individual longitudinal data; annual earnings; "union membership" includes professional associations; selectivity bias correction
7. Robinson and Tomes (1984)	1979	Prvt sector 34 Males 41 Females 16  Pblic sector 27 Males 38 Females 9	Individual data on hourly paid workers; selectivity bias correction
8. Simpson (1985)	1974	18.6	Microdata on wage rates for narrowly defined occupations; selectivity bias correction
9. Kumar and Stangos (1985)	1978	10	Union and non-union earnings data, by industry

Prvt = Private

Pblic = Public

The union wage effect will typically lead to an inefficient allocation of society's labour, capital and other resources and thus to a reduction in the total income generated by the economy. This "deadweight loss" or allocative inefficiency comes about as follows. Starting, for conceptual purposes, in a situation in which wages and employment are determined by competitive market forces, raising wages in the union sector leads to a reduction in employment and output in that sector as firms substitute machinery and equipment and other inputs for union labour and consumers substitute away from the relatively more expensive union-produced goods and services. The supply of labour to the non-union sector will thus be increased, tending to lower wages and increase employment in that sector.<sup>59</sup> Some individuals may drop out of the labour force as wages fall in the non-union sector and jobs are rationed in the union sector. The economy ends up with less labour (and more machinery and equipment) employed in the union sector and more labour (and less capital) employed in the non-union sector compared to the initial equilibrium.

The union/non-union wage differential results partly from the wages of union members being higher than they would be in a competitive market equilibrium and partly from the wages of non-union workers being lower than they would otherwise be. The misallocation of labour resources occurs because higher wages and reduced employment in the organized sector pushes other workers into less productive and more poorly paying jobs in the non-union sector. With a positive union/non-union wage differential, transferring one worker from the non-union to the union sector would increase the value of total output (and thus total income) in the economy.

In explaining this allocative inefficiency, I began with an economy in a competitive equilibrium. From this starting point, any distortion such as monopoly in the product market or unions in the labour market will lead to a reduction in the national income. However, if the starting point is an economy with existing distortions, then it is not necessarily the case that adding another distortion (e.g., union wage effects) will lead to a reduction in society's economic welfare. This statement follows from the "General Theory of Second Best" (Lipsey and Lancaster, 1958). Thus, if our starting point is an economy which is already distorted for various reasons, not only the magnitude but also the existence of a deadweight loss due to the union wage effect is an empirical question.

Early estimates of the deadweight loss, such as that of Rees (1963), were based on crude partial equilibrium methods and did not take into account other distortions in the economy. These studies estimated the loss to be small, about 0.15 percent of GNP when the wage differential was 15 percent. Subsequent studies (e.g., Ballentine and Thirsk, 1977) corrected some of these deficiencies. A recent study by DeFina (1983) provides substantially improved estimates by employing a computational general equilibrium model of the U.S. economy incorporating

several existing distortions. DeFina estimates the loss to be about half that of earlier studies; when the union/non-union wage differential is 15 percent, the loss is less than 0.1 percent of GNP, while a differential of 25 percent produces an estimated loss of 0.2 percent of GNP.

The deadweight loss may be slightly higher in Canada than in the United States owing to the higher union density. However, it appears unlikely to exceed 0.2 percent of GNP substantially, or about \$800 million dollars per year at 1983 levels of national income.

The deadweight loss is thus very small. However, the impact of unions on relative wages has other implications. Another effect noted by Rees is that income inequality will be increased. Those workers lucky enough to obtain employment in unionized firms will earn more, and comparable unorganized workers will earn less. Since unions tend to organize most successfully the larger firms in the economy, which tend to pay higher wages even in the absence of unions, this exacerbates income inequality. In addition, some of the most poorly paid occupations are not eligible for unionization and may have their living standards reduced further by higher prices for goods produced by union labour.

Higher wages for workers represented by unions do not depress wages for all non-union workers. Some unorganized workers gain, especially non-union employees in unionized firms and the employees in some (especially large) non-union firms who maintain their wages close to those of union workers in the same industry or region in order to lessen the threat of union organization. The employees who are more poorly paid owing to the union wage effect are more likely to be those in firms, industries, occupations or regions with a low probability of union organization. Although there will clearly be important exceptions, this will typically result in lower earnings for those who would be relatively poorly paid in the absence of unions (e.g., those in the service sector, in small firms, in employments such as domestic service or agriculture) and higher earnings for those who would be relatively well paid otherwise (e.g., those employed in large firms or in industries which are heavily unionized).

These wage inequality considerations have led to criticisms of collective bargaining from those concerned more with equity or income distribution than with total income and allocative efficiency (e.g., Beatty, 1983). However, as several recent studies have confirmed, unions have other effects which tend to equalize the distribution of income. The overall effect of unions on income inequality is therefore a complex sum of offsetting effects.

There are several effects of unions which tend to reduce inequality. Unions tend to reduce earnings inequality within firms; that is, to raise the wages of those at the lower end of the pay scale more than those at the upper end (Freeman, 1980). Unions also attempt to "take wages out of competition," that is, to standardize wages across establishments, and

appear to narrow the earnings differential between white-collar and blue-collar workers. These results are consistent with the finding that the rates of return to education and job training are considerably lower in the union than non-union sector (Block and Kuskin, 1978; Duncan and Leigh, 1980). Similarly, for Canada, Simpson (1985) finds that wage differentials by skill level are substantially compressed in the union compared to non-union sector. The net effect of unions on income inequality thus depends on several complex factors. Freeman (1980) has calculated that the net effect of unions is to reduce income inequality in the United States. Hyklak's (1979) finding that, other things being equal, earnings inequality is lower in metropolitan areas in which union density is high is consistent with Freeman's view. There is no Canadian evidence on this issue.

Thus far several consequences of union wage effects have been discussed. However, as industrial relations scholars have long emphasized, unions have numerous non-wage effects — on aspects such as benefits, seniority clauses, grievance procedures, layoff and overtime procedures, and the many other provisions contained in most collective agreements. These effects are important in any evaluation of unions and collective bargaining.

Rees concluded that unions interfere with the efficient operation of the economy, but that they have broader consequences for society and their members which deserve positive support from society. Recent research on the consequences of unions, much of it carried out or stimulated by Richard Freeman and James Medoff and discussed in their book *What Do Unions Do?*, argues for a more positive view of unions with respect to both their effect on the efficient operation of the economy and their broader consequences for society and union members. Each of these issues will be discussed in turn.

Freeman and Medoff (1984) argue that the effects of unions can be understood in terms of two mechanisms — the monopoly-wage mechanism and the collective voice/institutional response mechanism. The monopoly-wage mechanism was discussed in part above. The ability of union workers to act collectively gives them a form of monopoly power which enables them to raise their wages with largely negative consequences for society. Freeman and Medoff (1984, chap. 3) do not dispute this conclusion; in fact, their estimate of the resource allocation efficiency loss of 0.2 to 0.4 percent of GNP in 1980 is larger than those discussed above.<sup>60</sup> However, they argue that there may be efficiency as well as equity gains from the collective voice/institutional response mechanism.

In representing their interests in negotiations with the employer, unions provide their members with a collective voice; that is, they substitute collective for individual action. Indeed, under the exclusive

representation feature of North America labour law, the union is required to be the collective voice of all workers in the bargaining unit. Individual action is ruled out, at least formally, by this requirement.

Broadly speaking there are two mechanisms for bringing about adjustments to undesirable circumstances: the exit mechanism and the voice mechanism.<sup>61</sup> In the labour market the exit mechanism involves quitting a job with undesirable characteristics and obtaining or searching for preferred employment elsewhere. The voice mechanism involves attempting to change the undesirable characteristics, by complaining or negotiating with the employer. Although both mechanisms are used in both sectors, the exit mechanism appears to be the primary form of adjustment in the unorganized sector and the voice mechanism the primary form of adjustment in the union sector. The use of different adjustment mechanisms can, and evidently does result in significantly different behaviour in the two sectors.

In addition to resulting in different behaviour, the voice mechanism may be more efficient in some circumstances than the exit mechanism. As is well known, the exit mechanism leads to an efficient allocation of society's labour (and other) resources under certain circumstances — those of perfectly competitive markets. Thus, arguing that the voice mechanism can be more efficient implies suggesting that certain important assumptions of the competitive market model do not hold. Two possibilities have been raised: the public goods nature of many workplace conditions and imperfect information regarding employee preferences.

Numerous work conditions — such as safety conditions and the pace of production — have characteristics of public goods; that is, they are consumed by all workers, and the benefit received by one worker does not reduce the benefit received by others. With public goods, individual choice generally results in a socially inefficient outcome owing to the "free rider" problem. Because the benefits are shared among all consumers of the public good, no one individual has enough incentive to incur the costs associated with providing the good. The same principle may hold in important circumstances at the workplace. If all employees benefit from better lighting, protection against arbitrary treatment by supervisors, a grievance procedure for dealing with complaints of unfair treatment, safer working conditions, or other workplace conditions of this nature, there may not be a sufficiently strong incentive for any individual employee to incur the costs to improve these conditions. As with public goods in general, the socially efficient outcome can be brought about by collective choice mechanisms. Unions are not the only possible institutional mechanism, but they are the most obvious vehicle.<sup>62</sup>

According to this perspective, the relationship between a union and its members is thus analogous to that of the relationship between a government and the citizenry. The union attempts to elicit the preferences of the

membership and represent these interests in negotiations with the employer. This may not be an easy task, especially if the members' preferences are heterogeneous.

Samuelson's (1954) conditions for the efficient provision of public goods require equating the sum of the marginal benefits to the marginal cost of the good. It is unlikely that unions will be able to achieve this precise outcome, especially when members' evaluations of the public goods differ (Flanagan, 1983). However, a collective choice mechanism appears likely to approximate these conditions more closely than an individual choice mechanism.

The union can achieve this result by articulating the collective preferences of the workers. The potential social benefit from this articulation can be illustrated as follows: for the same cost (to the firm and to society) the package of wages and other employment conditions will yield a higher level of satisfaction to the work force. Alternatively, the same level of worker satisfaction can be obtained at lower cost. This way of putting the public goods argument makes clear that it relies on the firm having imperfect information about the preferences of the workers, and the union being able to articulate these preferences. If the firm has good information about worker preferences, it has an incentive to offer the least cost wage and employment package with a given level of satisfaction.

Even if we discount this "public goods" argument, the consequences of the different adjustment mechanisms for behaviour in the union and non-union sectors are important and evidently pervasive. Some of these results also raise efficiency issues.

Recent econometric research has confirmed that there are important differences between union and non-union work settings which cannot be attributed solely to the higher wages received by union members. These differences involve outcomes such as the wage structure, the nature and importance of fringe benefits, labour turnover rates, layoff behaviour, labour productivity and firm profitability. A detailed examination of these empirical studies is not possible here. However, some of the main findings, especially those relevant to an overall evaluation of the consequences of unions and collective bargaining, are discussed.

There are two generalizations which appear to apply to the differences between union and non-union environments. First, the outcomes in union environments reflect more the preferences of older, more senior workers. Second, unionization changes the nature of the relationship between management and employees and often also the nature of management. Even if the firm is aware of worker preferences with respect to wages, benefits and working conditions, Freeman and Medoff argue that the firm has an incentive to focus on the preferences of the marginal worker — the employee or potential employee on the margin between joining (or leaving) the firm and not joining (or not leaving). The firm will adjust its wage and benefit package to yield its preferred (net) hiring rate.

In the union sector, in contrast, wages and working conditions will reflect more the preferences of the average or median worker, because the union leadership will want to satisfy a majority of the membership. The marginal worker is likely to be younger and more mobile while the average worker is likely to be older and less mobile. If there are systematic differences in the preferences of these groups, these should be reflected in differences in wages and working conditions in the two sectors.

Empirical evidence generally supports this theory. Unionized workers not only receive better fringe benefits than comparable non-union workers, but unions raise the proportion of total compensation which is devoted to fringe benefits (Freeman, 1981). These benefits are generally worth more to more senior workers and to workers with a long expected tenure with the firm. Unionized firms rely more on temporary layoffs to respond to fluctuations in demand and these are generally by reverse seniority (Medoff, 1979). Promotions are based more on seniority in union firms and terminations are more likely to be on a last-in-first-out basis (Medoff and Abraham, 1981).

Unions also alter the nature of the management function and the relationship between management and employees. There is a greater reliance on rules governing management and worker behaviour in union work settings, compared to more authoritarian practices in non-union firms. These differences, in addition to their effects on labour costs, can result in different levels of productivity and profitability in union relative to non-union firms.

Unions are frequently criticized for their effect on productivity, in particular for negotiating work rules which force firms to use inefficient production techniques. Examples include minimum crew sizes, requirements that redundant personnel be employed or that particular tasks can be assigned only to specified employees, and maximum apprenticeship/j journeyman ratios in construction trades, among others. These restrictive work practices were estimated by Rees (1963) to cause at least as large a reduction in output as the deadweight loss effect discussed above.

Recent research has suggested, however, that unionized workers may be more rather than less productive than comparable non-union workers, despite the existence of restrictive work practices. These research findings are of considerable potential importance. To understand them we need to discuss the various mechanisms via which unions may affect productivity.

Unions can affect productivity through a variety of channels. Some of these are socially beneficial while others are not. As a general rule, productivity gains that result from the union wage effect do not involve a social benefit because they are more than offset (i.e., are a net loss to society) by concomitant reductions in productivity in the non-union

sector. Several examples are worth mentioning. As discussed above, higher wages in the union sector and lower wages in the non-union sector result in more (less) capital intensive production in the union (non-union) sector. Union labour, with more machinery and equipment to work with, will be more productive. However, across society as a whole, both labour and capital are less productive. A second example works through the effect on turnover. Because union jobs pay more and non-union jobs less, the quit rate will be lower in the union sector and higher in the non-union sector than in a competitive market equilibrium. This will raise productivity in the union and lower productivity in the non-union sector. Again there will be a net loss to society.

The third example involves the quality of the work force in each sector. Because they pay higher wages, unionized firms will have a longer queue of applicants from which to choose when hiring. They may therefore be able to screen out the more dependable or more productive workers. If this mechanism operates, the more productive workers will be employed in the union sector and the less productive workers in the non-union sector. This outcome may or may not involve a net benefit to society.<sup>63</sup>

There are a number of mechanisms through which unions and collective bargaining could improve productivity in a socially beneficial manner. These include better communication between management and employers over issues relating to production methods and scheduling, workplace design, flow of work, and so on; altering the relationships among workers; improved worker morale; and improving the quality of management. Most if not all of these mechanisms could also be associated with lower productivity. For example, in union firms seniority independent of productivity receives greater emphasis in promotions. This may enhance productivity by increasing cooperation among workers. Senior workers may be more willing to pass along their skills and experience if they are not competing for promotion with more junior workers. Conversely, promoting the most senior rather than most capable employee may reduce organizational effectiveness.

The overall effect of unions on productivity is a controversial empirical issue. Freeman and Medoff (1984, chap. 11) contend that unions raise productivity in most cases, but that this depends on the industrial relations setting rather than being a general phenomenon. The evidence is inconclusive. The broadly based study by Brown and Medoff (1978) estimated that unionized workers in U.S. manufacturing industries were 20–25 percent more productive than non-union workers when capital-labour ratios in the two sectors are assumed to be equal (in efficiency labour units). However, when this assumption is not made, the estimated productivity effect is zero. The authors prefer the results of the restricted model; under the more general assumptions the estimates are very imprecise. However, this preference is not sound statistical meth-

odology (Ashenfelter, 1985). Until better evidence is available the appropriate conclusion is that the average effect is zero.<sup>64</sup>

There is a growing body of evidence from econometric studies of particular industries.<sup>65</sup> These studies employ estimated production functions to obtain estimates of the percentage difference in productivity between union and non-union workers after controlling for the higher capital per worker in union firms. In addition, most studies attempt to control for observed worker quality, though the controls are typically crude. Although there are both positive and negative estimates, the majority are positive. It appears that unions can and often do enhance productivity, though this outcome is by no means assured.

Only recently have social scientists begun to investigate the effects of unions on productivity using modern econometric methods which enable controlling for other (observable) factors. There are several unresolved issues, including whether the economy-wide average effect is positive. There is also relatively little known about the mechanisms through which any positive productivity effects occur. Some of the most detailed studies (e.g., Clark 1980a, 1980b) suggest that increased managerial effectiveness may well play an important role.

This discussion of the economic consequences of unions and collective bargaining has focussed on the microeconomic questions of allocative efficiency and income distribution. However, any assessment of the implications of collective bargaining for the performance of our economic system would be incomplete without a summary of the macroeconomic consequences — with respect to inflation, unemployment, and the way the economy adjusts to disturbances. These issues are, however, complex and are dealt with more thoroughly elsewhere (Riddell, 1985d).

The primary macroeconomic consequences appear to result from the nature of wage contracts in the union sector. The widespread use of long-term overlapping fixed wage contracts in Canada and the United States results in considerable inertia in wage and price inflation. This persistence appears to result in larger and more prolonged deviations in output and employment from their normal levels in response to unanticipated changes in aggregate demand. In addition, it substantially raises the costs to society of pursuing disinflationary aggregate demand policies. A number of analysts have therefore suggested reforms such as gainsharing, shorter contracts and synchronized negotiations in order to promote wage flexibility and/or reduce the inertia in wage inflation (Mitchell, 1982; Weitzman, 1984; Riddell 1983). Although such suggestions do involve changes to the form of wage contracts, they do not necessarily imply a new policy with respect to unions and collective bargaining *per se*. Nonetheless, they do imply a significantly different approach — one which emphasizes wage responsiveness and flexibility rather than one which, as in the preamble to the U.S. Wagner Act,

emphasizes raising wages and promoting wage rigidity in order to counteract recessions.

Thus far I have discussed the *outcomes* of collective bargaining, and have said little about the *process* by which these outcomes are reached. One could argue that employee satisfaction depends only on wages, benefits and working conditions and not on how these are determined. However, this is probably too narrow a perspective. An advantage of collective bargaining is that it provides employees with an opportunity for democratic participation in the determination of conditions which affect an important part of their lives. Although such participation could take place in the absence of unions, the norm in the unorganized sector remains authoritarian determination of these conditions.

The role of unions and collective bargaining in providing a form of democratic participation in the regulation of the workplace — what Arthurs (1967) refers to as “industrial citizenship” — has been stressed by numerous writers. As stated recently by Ulman and Sorensen (1984, p. 427):

the most serious case for collective bargaining as a social institution has not rested on the grounds that it pays for itself — or that it is innocuous — but rather that it has generated noneconomic gains for democratic society, flowing from the replacement of a regime of paternalism in the workplace with “industrial democracy” and “industrial jurisprudence,” which might be set against those costs which its adversarial nature has entailed.

## ***Conclusions and Policy Implications***

Unions are complex institutions and collective bargaining has many implications for economic performance and the nature of the society in which we live. Any attempt to assess the role of unions in society in a few pages must necessarily gloss over some important issues and omit others.

Even this limited assessment makes clear that unions have both costs and benefits. There remains considerable uncertainty about their magnitude, in large part because, until recently, little empirical research on the non-wage effects of unions was carried out. Nonetheless, there appears little doubt that recent research has strengthened the conclusion that the positive effects outweigh the negative consequences. If an overall judgment is needed, it must be that labour policy should continue to encourage collective bargaining.

Although such an overall assessment is important, the more relevant issue is how to design labour policy to maximize the benefits and minimize the costs associated with unions and collective bargaining. On this issue, existing knowledge about the effects of unions and collective bargaining does point to general principles to guide policy. The negative microeconomic consequences emanate mainly from the union wage

effect, and increase with the magnitude of the union/non-union wage differential. Perhaps quantitatively more significant are the macroeconomic consequences associated with wage inertia and the form of wage contracts in the unionized sector of the economy. The positive consequences are associated primarily with the non-wage effects of collective bargaining and with providing a form of "industrial democracy" in the workplace. To minimize the negative microeconomic consequences, public policy should not encourage (indeed, should discourage) substantial wage premiums for unionized workers.<sup>66</sup> At the same time, to encourage democratic participation in workplace decision making, public policy should facilitate the process of choice of union representation and not permit employer opposition or intimidation to play a role in this choice. As noted above, the consequences for inflation, unemployment and stabilization policy can be dealt with by alternative approaches, such as gainsharing, to the form of wage contracts in order to reduce wage and price inertia.

The main way public policy could discourage substantial wage premiums for unionized workers is by promoting or at least not discouraging competition in product and labour markets. For example, restrictions on importing foreign-made automobiles are harmful to consumers and contribute to the already substantial earnings premiums of auto workers. As a result of these high earnings, one of the intended effects of the restrictions — maintaining employment in this industry — is partly offset by the increased mechanization of production. Similarly, "fair wage" laws which discourage competition between union and non-union firms in the construction industry contribute to the substantial union wage differential associated with that industry, as well as inflating the costs of building schools, hospitals and office towers.

Policies to facilitate employees' choice of union representation — in particular those involving the certification process, the negotiation of the first contract, and the definition of and remedies for employer unfair labour practices — were discussed previously in this overview paper. In addition, democratic participation in decision-making can be enhanced in both union and non-union enterprises by policies which encourage the use of joint labour-management committees, as outlined previously for dealing with workplace health and safety and, more generally, in Riddell (1985a).

This "middle-of-the-road" position will please neither those who strongly oppose trade unions nor those who believe they can do no harm. However, the extreme views do not appear consistent with the evidence on the economic and social consequences of unions and collective bargaining. The evidence indicates that unions have both costs and benefits for society. The challenge for public policy is to increase the benefits and reduce the costs. This section has suggested several ways that this objective might be accomplished. Many of the innovative

approaches to labour-management relations examined in the companion volume (Riddell, 1985a) are also intended to achieve this outcome.

## Conclusions

This overview paper, and the background papers which follow, deal with an important, complex and controversial set of issues, issues which affect the daily lives of many Canadians. The primary purpose has been to explain the current state of understanding of Canadian labour relations behaviour and performance. If the reader's understanding of phenomena such as union growth, public sector compensation, strikes and lockouts, the structure of collective bargaining, and workplace health and safety has been increased, the book will have achieved its main objective.

In addition, we assessed several important policy issues relating to industrial relations. We examined potential policy approaches in the context of the existing and largely adversarial nature of labour-management relations, leaving to the companion volume (Riddell, 1985a) questions relating to the feasibility and wisdom of adopting a more cooperative approach. Although no costless solutions were evident, we noted a number of policy initiatives for improving performance in areas such as occupational health and safety, strikes and lockouts, and public sector compensation. We discussed the fundamental issue of the role of unions and collective bargaining in society, and recommended a general policy approach.

The lack of obvious panaceas for our industrial relations ailments is one general theme which emerges in this volume. Another is the generally limited understanding of the causes and consequences of industrial relations behaviour and performance. Davies's comment that "in Canada . . . interest in structural reform to tackle perceived weakness in our collective bargaining system seems to have run far ahead of our knowledge of the likely consequences" appears to apply in many areas of labour-management relations. This situation results partly from the serious data limitations noted several times in this paper. It also may have deeper causes. Industrial relations scholars are frequently demanded as policy advisers, arbitrators and mediators, roles which can contribute to their research by increasing their understanding of complex issues but which also reduce the time available for basic research and which may focus attention on "issues of the day" and away from longer-term questions. Perhaps more important, basic industrial relations research is not necessarily welcomed by labour, business or governments. The consequences of these factors are summarized by Arthurs (1984, p. 17):

Much research is devoted to recording and evaluating the existing system; much scholarly energy is dissipated in texts for practitioners and students

and in practical, but ephemeral, work. And finally, such fundamental intellectual work as is undertaken tends to be treated trivially by its suspicious and partisan audience.

These general themes can easily be overstated. As noted in the introduction, poor economic performance over the past two decades combined with conflictual labour-management relations and increased intervention in collective bargaining by governments have focussed attention on our industrial relations system. A variety of proposals, some involving sweeping changes, have appeared. The papers in this volume and the more basic research upon which they are based contribute to our understanding of the causes of the performance of our industrial relations system during this turbulent period. Furthermore, they suggest ways that performance might have been improved, though they are cautious about the prospects for substantial amelioration. In the world of labour-management relations, where policy debates often consist largely of parties reiterating strongly held *a priori* beliefs, and where more attention is paid to self-interest and strategic advantage than to social betterment, these contributions may be valuable.

## Notes

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1. For sources of Canadian and U.S. data, see Kumar's (1985) paper in this book. In the United States, data on union membership based on the *Directory of National Unions and Employee Associations* are available to 1980. More recent data are based on the Current Population Survey. See Adams (1985).
2. Data on both collective bargaining coverage and union membership have important flaws. The collective bargaining coverage data covers only about 40 percent of the labour force, excludes establishments with fewer than 20 employees, and, among included establishments, the survey has a higher response rate in larger enterprises. Because unions are much more common in large establishments, the latter two factors imply that the reported coverage of 58 percent in 1982 overstates the extent of collective bargaining in the economy.
3. In the United States the difference between union membership and collective agreement coverage appears to be similar to that for Canada. Data from the U.S. Current Population Survey for 1977-80 indicate that approximately 89 percent of those covered by collective agreements are union members. In some countries the difference is much greater. In West Germany, less than 40 percent of the labour force are union members while more than 90 percent are covered by collective agreements (OECD, 1979).
4. There are several ways of distinguishing between the "public" and "private" sectors, depending on the purpose at hand. The public sector, narrowly defined, typically refers to employees of federal, provincial and municipal governments. The quasi-public sector refers to employees in education, health, and related services which are primarily publicly funded. Employees of Crown corporations (Air Canada, Canadian Broadcasting Corporation, Canada Post and so on) are included in the public sector according to some definitions, but in the private sector according to others. The distinction between the private and public sectors is discussed further in the fifth

section of this overview. In what follows I will use the term "public sector" in the broad sense; that is, to include the quasi-public or para-public sector.

5. Mining is the main exception. In this sector union density declined from 51 percent in 1966 to 33 percent in 1980. Over this period, union density declined slightly in transportation, communication and utilities, remained constant in manufacturing and increased in construction. See Meltz (1985, Table 1).
6. For a more detailed discussion of the evolution of Canadian labour law, see the Commission study by Weiler (1985a), on which some of what follows is based.
7. Of course, this characterization of the evolution of collective bargaining law in terms of three main phases omits important developments within each phase. In particular, during the second phase there were a number of legislative changes which made union organization somewhat easier. Further, prior to World War II, some provinces passed legislation which could be considered forerunners of P.C. 1003.
8. Whether this was the intent of the legislation is discussed below.
9. In the past two decades the federal, British Columbia, Manitoba and Ontario jurisdictions have included in their labour codes a statement to this effect. This "positive commitment" to collective bargaining is discussed further in the ninth section of this overview.
10. The proportion of union victories has fallen from 74 percent in 1950 to 48 percent in 1980. The number of workers in union victories as a percent of eligible workers has fallen even more from 84 percent in 1950 to 37 percent in 1980 (Weiler, 1983, Table I).
11. Of course, the legal regime is itself a function of underlying forces such as attitudes toward unions and collective bargaining. Because these factors are generally unobserved, the role of differences in the law can be overstated.
12. Indeed, the growth and apparent success in the United States of employer unfair labour practices during the representation process and negotiation of first contract has led supporters of collective bargaining to call for a major overhaul of U.S. labour law. One direction of reform, proposed by Weiler (1983, 1984), is to adopt provisions common in Canadian jurisdictions.
13. These projections should be treated with considerable caution. Events may turn out better or worse, possibly even much better or worse. For a more detailed discussion of the medium-term projections see Sargent (1985a, 1985b).
14. For a discussion of the union/non-union wage differential and references to the empirical literature see the ninth section of this overview.
15. For a useful review of labour relations developments in British Columbia see Thompson (1985).
16. A more detailed discussion of these attitude survey results and those which follow is contained in the Commission study by Johnston (1985).
17. In *Eastern Canada Stevedoring Company* (1955), 3 D.L.R. 721 (S.C.C.).
18. For a more detailed discussion of this development see Weiler (1985a) and the references cited therein.
19. For a dicussion of this important issue see the papers by P. Cavalluzzo, P. Gall and J. Weiler in Weiler and Elliot (1985).
20. Public sector bargaining also began much earlier in numerous municipalities.
21. For a discussion of the factors that led to the introduction of the Anti-Inflation Program see Maslove and Swimmer (1980).
22. Recent polls indicate that about 60 percent of Canadians oppose the right to strike for teachers and civil servants, though about 60 percent support and 30 percent oppose the right to strike in general (Johnston, 1985, Tables V-22 and V-23). In 1965, prior to the extension of collective bargaining rights to most public sector employees, a majority of respondents favoured the right of public servants to strike.
23. In the federal jurisdiction, most back-to-work legislation has involved the transportation industry, particularly railways and shipping.
24. Panitch and Swartz (1984), for example, see the pattern of government intervention leading toward permanent restrictions. In their words: "As the present comes to be

seen as history, it is likely that 1982 will be taken as marking the end of an era of industrial relations in Canada. . . ." At the time of writing (Summer 1985) the evidence relating to this prediction is mixed. Wage control programs remain in some jurisdictions but have been phased out in others.

25. For a discussion of the relationship between wage rigidity and fluctuations in output and employment see Riddell (1985d).
26. This is not to suggest that the issues are fully settled, or that there are no important gaps in our knowledge. As for many other policy issues, we know much less than we would like, primarily because of data limitations.
27. See Mitchell (1983) for a survey of U.S. public sector studies. These results refer to the difference in wages of unionized state- and local-government employees relative to otherwise comparable non-union public employees.
28. It is worth noting that, because of restrictions on the scope of collective bargaining in the public sector, those benefits and working conditions are in many cases not the subject of union-management negotiations.
29. The limitations of these data are noted below.
30. The non-commercial sector includes federal, provincial and municipal governments plus highway and bridge maintenance, water systems and utilities, welfare organizations, education and related services, and hospitals. The commercial sector includes everything else. Thus the commercial sector includes some enterprises, primarily Crown corporations, which some would include in the "public sector" (e.g., the CBC, Canada Post).
31. The recent two-year control program at the federal level provided for wage increases of 6 percent in the first year and 5 percent in the second. Other than the estimates reported in Wilton (1985, Table 5-6) no econometric studies of the effects of this program are available. Casual inspection of the data suggests, however, that wage increases of 6 percent in the first year may have been below those that would have occurred in the absence of the program, but that the reverse is probably true for the second year of the program. Thus the overall affect of the program may have been minimal (as suggested by Wilton's estimates), and possibly perverse.
32. See Gunderson (1984) for a discussion of these differences and an assessment of their net impact.
33. See Kumar (1984) for a more detailed discussion.
34. The well-publicized but less than fully understood slowdown in productivity growth has probably played a role as well. However, there is no solid evidence to link the productivity slowdown to a deterioration in labour relations. See Denny (1985). There is, however, one well-known example, from which Canadians may have generalized, of a deterioration in labour-management relations which has also been accompanied by a rise in strike activity and a decline in productivity — the Canadian post office. See Read (1982) for a discussion of the dramatic decline in both labour and total factor productivity at Canada Post since 1964, and the role of labour-management relations in this decline.
35. *Financial Post*, August 27, 1983.
36. See Canada, Department of Labour (1983, p. 47) and Digby and Riddell (1985).
37. See Lacroix (1985), Tables 3-5 and 3-6. Note that Lacroix's definition of the public sector is more restrictive than the Labour Canada definition used by Smith (1984). With the broader definition, the public sector accounts for 20.8 percent of strikes and lockouts and 24.2 percent of time lost in 1978-81.
38. See Lacroix (1985), Table 3-4, and Smith (1984). In part this difference reflects the facts that not all public sector employees have the right to strike, and even for those with this right, arbitration is much more extensively used as a dispute resolution mechanism than in the private sector.
39. These data suggest that the probability of a strike or lockout has decreased over the 1966-83 period. Labour Canada (1983, p. 85) and Lacroix (Table 3-3) report a similar result. The decline appears to be due to special factors (the growing importance of the public sector in this data set, the steep decline in strike activity in 1977-78 associated

with wage controls, and the equally steep decline in work stoppages in 1982-83 associated with the recession) rather than to an underlying trend.

40. There are numerous differences across countries in the way statistics on both strikes and lockouts and union membership are defined and collected. The comparisons in Tables 1-4 to 1-8 should be judged accordingly. Union membership data were available for most countries for 1978. Strike and lockout data were averaged over the period 1976-81 to reduce the importance of year-to-year fluctuations.
41. The sources for this information are the same as those given in Table 1-8, and calculations by the author.
42. In a study of the output effects of the Canadian postal strikes from 1974 to 1981, Maki (1983) found losses for the publishing and retail industries and gains for the telephone industry. The overall estimated net loss of the 1975 strike (\$100 million) was considerably less than the loss estimated by the postmaster general (\$375 million). The latter may not have incorporated offsetting gains.
43. In a study using individual contract data Cousineau and Lacroix (1983) find that, other factors held constant, the probability of a strike or lockout is lower the shorter the previous contract.
44. It is important to note, however, that a market mechanism exists for the effect on third parties to be internalized. For example, a firm that cannot provide a reliable guaranteed supply will have to discount the product price relative to a firm that can provide such a guarantee. For this reason, these third-party costs are smaller than is commonly believed.
45. See note 44 above.
46. For some evidence see Maki (1983).
47. See Sosnick (1964) for a review of various proposals and a discussion of difficulties with the non-stoppage approach.
48. Blackorby and Donaldson's scheme would have this tax continue throughout the contract, a provision which would make a negotiated settlement very likely. A less severe alternative would involve levying the tax until a settlement is reached, which is what is assumed here.
49. For a more detailed discussion of this evidence see Gunderson (1983).
50. Japan is particularly difficult to classify. Wages are negotiated in a fairly centralized manner — primarily at the industry level in the Spring Wage Offensive. The semi-annual bonus and working conditions are determined by enterprise-level bargaining. For a description of the Japanese labour relations system see Weiler (1985b).
51. These conclusions come from a recent cross-country survey of labour relations developments, Juris, Thompson and Daniels (1985).
52. Such requirements may either increase or decrease the probability of union certification. In the case of Michelin, the effect has evidently been to make certification less likely, an outcome which some view as the main objective of the legislation.
53. The choice of bargaining structure is not necessarily an "all-or-nothing" one. It is possible, indeed common, to retain local autonomy on some issues when broadly based bargaining is used on others. See also note 50 above.
54. A more complete discussion of the role of tripartite collaboration in reducing social conflict — particularly strike and lockout activity — is provided in the companion volume, Riddell (1985a). There it is also noted that an important precondition for the emergence of tripartism is a highly centralized structure of business and labour organization.
55. In their econometric study of strike activity over the period 1965-75, Swidinsky and Vanderkamp (1982) test the effect of bargaining structure on the probability of a work stoppage and find no statistically significant effects.
56. See, e.g., Friedman and Friedman (1979) and Beatty (1983), respectively.
57. For a discussion of current thinking about the relationship between wage rigidity and the cyclical behaviour of the economy see Riddell (1985d).
58. *Canadian Industrial Relations: The Report of the Task Force on Labour Relations*. Ottawa: Queen's Printer, 1968.

59. This does not imply that wages for *all* non-union workers will be reduced; see the discussion in the text below. In addition, the adjustment process described here takes place gradually over time. Thus, non-union wages may not actually decline; rather, they would likely rise less quickly than union wages.
60. This is partly due to the large (estimated) union/non-union wage differential in 1980.
61. This distinction was developed in Hirschman (1970).
62. The notion that unions may be an institutional mechanism for dealing with workplace public goods goes back at least to Olson (1965).
63. If higher productivity workers have an absolute advantage over lower productivity workers but not a comparative advantage, there will be no net benefit or loss. However, if the higher productivity workers interact better with capital, there could be a gain.
64. The estimated productivity effect of 20–25 percent is also difficult to reconcile with the general finding that unions lower profitability (Addison and Hirsch, 1984).
65. See, for example, Allen (1984), Clark (1980a, 1980b, 1984), Freeman and Medoff (1984, chap. 11), and the references cited therein.
66. This is also the view of Freeman and Medoff (1984, chap. 16).

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## Union Growth in Canada: *Retrospect and Prospect*

PRADEEP KUMAR

The expanded scope and significance of labour organizations in Canada's economy today stand in marked contrast to their weak and uncertain position 40 years ago. Total union membership has more than quintupled. Union density — the proportion of non-agricultural paid workers who are union members — has almost doubled from about 22 percent in 1943 to over 40 percent in 1983. Similarly, the proportion of workers covered by collective agreements, a broader measure of the scope of union and collective bargaining activity, has risen from 33 percent to about 58 percent, with the coverage being as high as 73 percent among non-office ("blue-collar") workers and almost 90 percent among government employees. With the expansion of union organization in public sector and white-collar employments, the union movement has become truly national in scope and character, representing workers in every province, industry and in almost all demographic groups. Accompanying this unprecedented growth in coverage have been far-reaching changes in the organization and structure of the movement. For example, while internationals were the predominant form of unionism 40 years ago, national unions are now the major segment, accounting for more than one-half of total union membership. "Canadianization" is also growing, and there is greater autonomy for Canadian sections within many internationals. With the rationalization of union structures, union mergers, and the growing concentration of membership in large unions, the movement is less fragmented, stronger, and capable of providing a more adequate level of services to the membership.

Following four decades of almost uninterrupted membership growth and many sweeping changes in organization and structure, the trade union movement appears to be at a crossroads owing to a difficult

external and internal environment. Slow economic growth prospects, high levels of unemployment, aging of the population, and structural changes related to technology and international competition are affecting employment in sectors where union membership is heavily concentrated. The emerging pattern of labour demand is oriented toward white-collar workers in the private sector, women and part-time employees — groups where union organization has traditionally been weak and difficult, and resistance to unionization strong. There are also indications of a change in public policy relating to unionism and collective bargaining in some jurisdictions with potential adverse impacts on union organization and growth. These unfavourable external pressures have arisen at a time when the labour movement is experiencing many internal divisions and severe financial difficulties brought about by the recent serious recession. Thus, in 1982-83, for the first time in the past four decades, total union membership declined by more than 50,000, a reduction of 1.5 percent from the previous year. There is also evidence of a slowdown since 1977 in the growth of the membership of major industrial unions (e.g., the United Automobile Workers), building trades, and some public sector labour organizations, and in the number of new certifications granted in various jurisdictions. These recent developments, together with many recession-related changes in the collective bargaining system,<sup>1</sup> have raised the question whether the decline in union membership is purely cyclical or a long-run structural phenomenon. There is a growing belief that the balance of power in collective bargaining is shifting to management, and the emerging social, technological and economic changes may not be favourable to trade unionism. Whether union influence declines or increases in the years ahead will depend to a large extent on how unions adapt their policies, approaches and structures to the changing environment. Human resource management strategies and responses and public policy changes are two other key factors that will influence union growth prospects. Whatever the outcome, the future direction of unionism will have an important bearing on Canada's ability to adapt successfully to the unprecedented changes in its economy and society.

Against this background, the purpose of this study is fourfold: to survey the pattern of Canadian union membership growth and related changes over the past 40 years, with special emphasis on the past two decades; to analyze the main external and internal factors influencing union growth and development; to examine the areas of future potential for union membership growth; and to assess alternative scenarios of future union growth.

The paper is organized into four parts. The first part highlights the current profile of the trade union movement, focussing on its diversity, structure and legislative framework. The second part provides perspectives on aggregate union membership growth, and changes by industry,

region, affiliation, membership size, and on the divergence in patterns of union growth between the United States and Canada. The third part includes a review of the literature and a survey of empirical knowledge on the determinants of union growth. The last part analyzes the current trends in membership of large unions to evaluate, first, whether the recent decline is purely cyclical or partly structural; second, the areas of future union growth potential; third, the changing environment for unions; and, fourth, alternative scenarios of future union growth.

## **A Current Profile of the Trade Union Movement**

According to the most recent Directory of Labour Organizations in Canada, there were 826 trade unions in Canada with a total membership of nearly 3.6 million as of January 1, 1983. These included 220 international and national unions and 606 independent local organizations and directly chartered unions. Union members constituted 30.6 percent of the civilian labour force, 40 percent of all non-agricultural paid workers, and 44.6 percent of the "potential" non-agricultural work force "legally eligible"<sup>2</sup> to unionize. However, the union density figures, while appropriate for measuring the extent of potential union membership, understate the true impact of union organization, since Canadian labour relations statutes require that once a union is certified for purposes of collective bargaining, the resulting collective agreement covers all employees whether or not they are union members. For example, in 1982, an estimated 58 percent of all workers in establishments of 20 or more employees were covered by collective agreements.<sup>3</sup> The coverage was higher still in larger establishments, in the public service, and for blue-collar or non-office workers. Among the major industrialized countries, union membership in Canada as a percent of wage and salary earners is significantly higher than in the United States and Japan, but lower than in most Western European countries such as Sweden, West Germany and the United Kingdom. This section provides a summary perspective on some key characteristics of the Canadian trade union movement, emphasizing its diversity and organizational structure and describing the legislative framework within which it operates.

### ***Diversity***

The trade union movement in Canada, despite its large membership drawn from almost all regions and industries, is highly diverse. The "movement" consists of 74 international unions, 146 national unions, 366 directly chartered local unions of central labour federations, and 240 independent local organizations. The 220 international and national unions charter nearly 14,000 self-governing "locals," the basic organizational unit of trade union organization and the legal entity for purposes of

collective bargaining.<sup>4</sup> Membership size of locals varies from under 10 to more than 25,000. In 1981, according to the latest annual report on labour unions under the Corporations and Labour Unions Returns Act (CALURA),<sup>5</sup> while over one-half of the locals had fewer than 100 members, only one-half of one percent had a membership of 5,000 and more; the average size of a local was 235. Almost two-thirds of all locals belonged to 37 trade unions having at least 100 locals each. At the same time, 151 locals were distributed among 40 unions, none of which had more than nine locals. Among the major unions, the Canadian Union of Public Employees (CUPE) with a total membership of more than 280,000 had the largest number of locals (1,626), and the Quebec Teaching Congress (82,000 members) the smallest number (134).

The disparity is also reflected in the membership size of 220 international and national unions; 39 unions in 1983 had a membership of fewer than 1,000 (six with under 100), with a combined total of about 20,000 members, while 16 unions commanded a membership of 50,000 or more and accounted for slightly over one-half of the total union membership of 3.6 million in Canada. Included among these 16 largest unions were five unions (three of them public sector organizations) with at least 100,000 members each and a total membership of 831,209, nearly one-fourth of the country's union members.<sup>6</sup>

The fragmentation of the Canadian trade union movement into a small number of unions with a large membership and a considerably larger number of unions with a small membership is related to the decentralized nature of collective bargaining in Canada. Because of the dominant pattern of single-plant/single-union bargaining, there are more than 22,000 collective agreements, covering varying numbers of employees, between more than 200 national and international unions and nearly 40,000 employers.<sup>7</sup> An overwhelming majority of bargaining units are very small, covering an extremely low proportion of organized workers in contrast to a few large bargaining units of 2,000 and more employees covering almost two-fifths of all workers under collective agreements. There is also a marked disparity in the distribution of collective agreements among labour organizations; while a small number of unions have a very large number of collective agreements, a great majority have only a few agreements. For example, eight unions in 1981 accounted for almost two-fifths of all collective agreements in existence, each with a minimum of 500 agreements; in contrast, 89 unions had fewer than 50 agreements each, totalling 1,262 in all.<sup>8</sup>

## ***Membership Profile***

Membership of unions in Canada is heavily concentrated among prime-age, full-time male workers. According to a recent work history survey conducted by Statistics Canada in January 1982, of the nearly four

million unionized workers who held a job at some time in 1981, about 65 percent were men, 90 percent worked full-time, 52 percent were in the age group 25-44, and two-thirds had high school or less education.<sup>9</sup> Of the total paid employees, 25 percent of the women and 36 percent of the men were members of unions. Among the full-time workers, the proportion organized was 39 percent for males and 29 percent for females. Only 15 percent of the part-time workers were unionized, according to the survey, ranging between 9 percent in trade and 22 percent in public administration. Almost two-thirds of the unionized part-time workers were women and nearly three-quarters were in clerical, service and professional occupations.

The survey appeared to show that union affiliation increases with age; the extent of unionization in 1981 was 19 percent in the 15-24 age group, 35 percent in the 25-34 age group, and 39 percent and 40 percent in age groups 35-44 and 45-64, respectively. The age-unionization profile is steeper among males than females, according to the survey.

## ***Geographical Distribution***

Union organization in Canada differs widely among the provinces. Almost two-thirds of union membership is in the heavily populated and industrialized provinces of Ontario and Quebec; Ontario has the largest number of union members. British Columbia ranks third in terms of union membership, and Prince Edward Island and the Yukon and Northwest Territories have the smallest membership.

As a percent of non-agricultural paid workers, however, Newfoundland has the highest degree of unionization (46.7 percent), followed by British Columbia (40 percent) and Quebec (36.3 percent).<sup>10</sup> In Ontario, with more than a million union members, 30.0 percent of non-agricultural paid workers are unionized. The smallest proportion of organized paid workers is in Alberta (24.2 percent), followed by Prince Edward Island (26.2 percent). The geographic disparity in the extent of union organization is also apparent in the estimates of workers covered by collective agreements.<sup>11</sup>

## ***Industry Pattern***

The degree of unionization varies from sector to sector. While a majority of workers in public administration (69.1 percent), construction (54.0 percent), transportation, communication and utilities (53.2 percent), and in forestry (56.2 percent) are union members, the degree of organization is extremely low in wholesale and retail trade (8.9 percent) and finance, insurance and real estate (2.8 percent).<sup>12</sup> In manufacturing and mining, the traditional bases of union organization, the percentage of workers organized ranges between 35.5 (mining) and 44.4 (manufacturing).

Variations in union organization are more pronounced at the disaggregated industry level. For example, while in aggregate only about four-fifths of all manufacturing workers are unionized, nearly three out of four workers in rubber, wood products, paper, primary metals and transportation equipment industries belong to unions.<sup>13</sup> In petroleum and chemical products industries, less than one-quarter of workers are unionized. Collective agreement coverage by industry provides further confirmation of disparity in the extent of unionization. The proportion of workers covered by collective agreements varies from about 3 percent in finance to 90 percent in public administration.<sup>14</sup> The figures on collective agreement coverage also indicate that the extent of union organization is significantly higher among blue-collar or non-office workers compared with white-collar office workers. For example, 73 percent of all non-office employees in non-agricultural industries (excluding construction) were covered by collective agreements in 1981 compared with 43 percent of office workers. Again, the coverage for each of these two categories of workers varied markedly by industry.<sup>15</sup>

### ***Occupational Pattern***

Union membership figures by major occupational group are not collected in Canada. Unpublished estimates from the special work history survey conducted by Statistics Canada show that almost one-half of the full-time workers in blue-collar occupations (logging, mining, processing, assembling and repairing, construction trades, transport equipment operating and material handling, etc.) were union members in 1981. In managerial and professional occupations 37 percent of workers were organized, among clerical and related occupations 29 percent, in service 27 percent, and in sales occupations only 9 percent. The extent of unionization was considerably less among women than men in almost all occupational groups.

### ***Organization and Structure***

There are essentially three major types of trade unions in Canada — international unions, national unions, and independent local organizations and directly chartered local unions. International unions, a unique feature of the Canadian labour movement historically, are unions that represent workers in both Canada and the United States but have their headquarters and usually the predominant portion of their membership in the United States. In 1983 nearly 1.5 million Canadian workers, 41.3 percent of the total union membership, belonged to the 74 international unions.<sup>16</sup> These unions include both the traditional craft-type unions (e.g., Plumbers and Pipe Fitters) and industrial-type unions (e.g.,

United Automobile Workers), representing blue-collar as well as white-collar office and professional workers. International unions vary in their membership size and number of locals. Ten of the 74 international unions have over 50,000 members and a total membership of about 900,000. In contrast, 14 unions have fewer than 1,000 members, including five with fewer than 100 members, for a combined total of 3,760 members.<sup>17</sup>

Membership in international unions is heavily concentrated in manufacturing, forestry, mining, construction, and trade.<sup>18</sup> In construction, almost all union workers belong to international unions. In forestry, mining, manufacturing and trade, international unions account for nearly four of every five organized workers. The proportion of international union membership is about one-half in transportation, storage and communications, slightly over one-third in utilities, one-quarter in services, and practically negligible in public administration. Because of its industrial and blue-collar orientation, membership in international unions is largely confined to three provinces — Ontario, Quebec and British Columbia.

National unions are the largest segment of Canada's trade union movement; as of January 1983, 146 national unions had 1.95 million members, about 55 percent of the total union membership in Canada. Employees of federal, provincial and local governments, teachers, nurses, policemen and firefighters constitute the vast majority of the rank and file of national unions. Thus, membership of national unions is heavily concentrated in public administration and service industries: these two industry groups contain nearly two-thirds of all national union members.<sup>19</sup> Almost all government employees and nearly four of every five unionized workers in service industries belong to national unions. National unions also have a high proportion of women among their members compared with international unions,<sup>20</sup> reflecting the high proportion of female employment in service sectors.

National unions comprise a variety of union types and inter- and intra-union structures. While some national unions like CUPE and the Canadian Brotherhood of Railway, Transport and General Workers are "general" and truly national unions in scope (that is, their locals are spread all across Canada and in many industries), a majority of national unions are public sector unions with a special regional, industrial or occupational orientation (or a combination of all three). Most public sector unions have complex organizational structures that include separate regional and occupational divisions as well as "informal" interunion structures for purposes of coordination and national lobbying.

National unions, like international unions, are characterized by great disparity in membership size. Almost one-fourth of the 146 national unions in 1983 were small unions with fewer than 1,000 members and a

combined membership of 16,000. At the same time, there were six large unions, each with at least 50,000 members, with a total of close to a million members, almost one-half of the total national union membership.<sup>21</sup>

The third type of trade union in Canada is the independent local union organization, including those directly chartered by central labour federations. Very little information is available on these unions. Each year Labour Canada surveys the independent local labour organizations that have 50 or more members and have been certified as bargaining agents under the appropriate legislation. According to Labour Canada, "these local labour organizations consist of a single unaffiliated unit." The latest survey report indicates that as of January 1983 there were a total of 240 such labour organizations in Canada with a combined membership of about 100,000. Included in this total are organizations such as faculty associations, police associations, small office employees' associations, and a few bargaining units in the private sector. In addition, there were 368 directly chartered locals of central labour federations with a total membership of 44,633.

## *Federations*

There are five central labour federations in Canada with which almost all national and international unions are affiliated — the Canadian Labour Congress (CLC), the Confederation of National Trade Unions (CNTU), the Centrale des syndicats démocratiques (CSD), the Confederation of Canadian Unions (CCU), and the newly formed Canadian Federation of Labour (CFL). These five federations account for nearly three-quarters of the 3.6 million union members.<sup>22</sup> The remaining one-quarter of union members are either in those national, international and independent local labour organizations not affiliated with any of the central federations or in those international unions only affiliated with the U.S.-based federation, the AFL-CIO (e.g., the Laborers' International Union of North America and the United Brotherhood of Carpenters and Joiners of America); the two largest unaffiliated organizations in 1983 included the International Brotherhood of Teamsters and the Quebec Teaching Congress.

The Canadian Labour Congress, the dominant labour federation of Canadian unions, sometimes referred to as the "House of Labour," came into being in 1956 as a result of the merging of two earlier federations, the Trades and Labor Congress and the Canadian Congress of Labour, following a similar merger of the American Federation of Labor (AFL) and Congress of Industrial Organizations (CIO) in the United States. Among the CLC's affiliates are 51 international unions (of the total 74 in 1983), 27 national unions (of the total 146), and 74 directly chartered local unions, comprising 2.08 million union members, 57.6 percent of the

total union membership in Canada.<sup>23</sup> It commands over two-thirds of the membership of international unions and one-half of the total national union membership.

The major functions of the CLC, like those of other federations in Canada, are to promote the economic, political and organizational interests of its affiliates; to provide assistance through research, education and other services for effective union organization and collective bargaining; and to "actively encourage the elimination of conflicting and duplicating organizations and jurisdictions through agreement, merger and other means."<sup>24</sup> The Congress does not engage directly in collective bargaining negotiations or in the administration of collective agreements, except in the case of chartered locals and negotiations with its own employees. Nor does it interfere in the collective bargaining activities of its affiliate unions except occasionally, on their request, providing assistance in difficult negotiations and labour disputes. To further its objectives, the CLC has established a network of service departments and organizations at the national, regional, provincial and local levels. The departments at the national level provide services in the areas of public relations, research and legislation, education, organization, and political education. Similar coordination and service functions are performed by provincial federations of labour and local labour councils and committees, established by the CLC and its affiliate unions. The CLC, in the performance of its functions and in guiding the activities of its affiliate unions, follows certain codes of behaviour detailed in its constitution: the Code of Union Citizenship; the Code of Organizing Practices; the Code of Ethical Practices for the Promotion of Union Democracy; the Charter of Labour Rights; and the Canadian Standards of Self-Government.<sup>25</sup>

### ***Political Orientation***

Canadian unions, like their American counterparts, are primarily "business" unions — that is, their primary concern is the improvement of wages and working conditions through the process of collective bargaining rather than bringing about social change through direct political action. A number of unions and federations, however, engage in political education activities with a view to encouraging their members to participate actively in political and social affairs and to seek desired legislative changes.<sup>26</sup> While not formally affiliated with any political party in the interest of "preserving the independence of the labour movement from political control," the Canadian Labour Congress, unlike the AFL-CIO in the United States, has endorsed a political party. It supports the New Democratic Party with the conviction that the party "best represents the wishes of the Canadian labour movement." The strong financial and

other support of the NDP by the CLC and its affiliated unions,<sup>27</sup> however, has seldom materialized in a big labour vote.<sup>28</sup>

## ***Legislative Framework***

The present extent and scope of union organization in Canada have been greatly influenced by an extensive legislative and public policy framework.<sup>29</sup> Labour relations legislation establishes the processes and regulations for the organization and recognition of a union and the acquisition, transfer, and termination of collective bargaining rights, including provisions relating to union security, successor rights, bargaining in good faith, and unfair labour practices, coverage and exclusions. However, the legislation in general does not interfere with the internal affairs of the union. The relationship between the union and its members is considered to be governed by the constitutional rules and regulations of the union unless the individual's rights are affected. Several jurisdictions have also given their labour relations boards the power to resolve jurisdictional disputes among unions.

Constitutional jurisdiction over labour relations was not specifically stated in the Constitution Act, 1867, but over the years these matters have been interpreted as resting largely with the provinces. As a result, legislative authority over labour relations is divided among ten provinces and the federal government, which has jurisdiction over rail, air, shipping, and trucking operations, banks, broadcasting, uranium mines, grain elevators, federal public servants, and employees of federal Crown corporations.

## ***Public Attitudes***

Canadians have a generally favourable view of trade unions, although public opinions vary over time with changes in the state of the economy, collective bargaining experience, and the media coverage of union activities. The Gallup Poll Report on public opinions, conducted by the Canadian Institute of Public Opinion, indicates that the public image of unions, and their activities, has been tarnished in the past two decades. In November 1980, for example, 54 percent of Canadians believed unions to be "a good thing" for Canada while 30 percent disapproved. In 1956 the same question had produced a much different response; 69 percent of Canadians then favoured unions and only 12 percent had a negative opinion. The shift was evident even among union households: in 1980, 71 percent of union households believed unions to be a good thing for Canada, compared with 84 percent in 1956. Nearly two-thirds of Canadians (65 percent) think that unions are becoming too powerful; a majority of union households (56 percent), according to the Gallup

Report of November 1980, confirm this view, and also believe that union leaders do not always represent the views of ordinary union members.

It appears that the higher frequency of strikes in recent years, in both public and private sectors, has had an important influence on the public attitudes toward unions. Canadians, according to public opinion polls, are becoming increasingly intolerant of strikes, especially in certain public services. The 1980 survey found that 51 percent of Canadians think that "strikes by civil service employees such as postal workers, customs men, etc." should be forbidden by law, while 41 percent believe "they should have the strike weapon." This result is in direct contrast to the opinions expressed in 1965, on the eve of the federal government's decision to grant the public service full collective bargaining rights including the right to strike.<sup>30</sup> At that time a majority of Canadians favoured the right of public servants to strike; only 33 percent disapproved. Public opinion polls suggest that a majority of Canadians, including those in households with a union member, think that strikes called by labour unions are not even beneficial to union members. The negative attitudes also apply to "big business" and "big governments." In 1980 a public opinion poll revealed that 36 percent of Canadians consider "big labour" a threat to the future well-being of Canada. "Big business" was believed to be a threat by 20 percent of Canadians while 29 percent expressed the opinion that "big government is the biggest threat to Canada's future."

Public perceptions of unions generally cluster into two groups: a negative big-labour image owing to a pervasive belief that "unions help cause inflation," and a positive instrumental view that unions are "an effective mechanism for gaining improvements in wages and working conditions."<sup>31</sup> Studies in this area also underline the importance of job dissatisfaction in favourable dispositions toward unions.<sup>32</sup>

## ***Union Wages and Working Conditions***

Comparative data on union and non-union workers' wages, benefits and working conditions and on workplace rules and procedures are notably scanty in Canada. The available information suggests that unionized workers — that is, employees covered by collective agreements — receive higher wages, get more paid holidays and vacations, have better sick leave and other related paid absences, and are covered by improved private welfare and benefit plans; weekly hours of work, however, are similar for unionized and non-unionized employees.<sup>33</sup> In the absence of adequate research, it is difficult to determine whether these differentials are transitory or permanent, or whether they are related to productivity differentials. Evidence from the analysis of major collective agreements also indicates that most unionized establishments have formal pro-

cedures and established mechanisms for the redress of workers' grievances, layoffs, rehiring, promotion, contracting out, and the like, and, to a limited extent, consult workers on the introduction of technological changes.<sup>34</sup>

## Union Growth in Canada

The trade union movement in Canada has experienced unprecedented growth over the past four decades. Total union membership has more than quintupled. The proportion of non-agricultural paid workers affiliated with unions has almost doubled. The expanded union organization has covered many new areas and sectors of the economy. Accompanying this growth there have been marked changes in trade union structure and organization.

The following pages provide an historical perspective on union membership growth and related structural changes, including a brief review of key factors underlying this growth. The trends in membership are compared with alternative measures of union organization such as union certification activity and collective bargaining coverage. The profile and patterns of growth by industry and province and by major labour organizations are examined. Also analyzed are some of the key changes in the organization and structure of the movement — for example, the decline in the relative importance of international unions and the growing concentration of membership in large unions. In light of the striking divergence in union growth between Canada and the United States in the past two decades, the trends and patterns in the two countries are also compared.

### *Historical Perspective on Growth*

The unprecedented growth in union coverage over the past four decades is marked by four distinct phases of organizational activity. The first phase of union growth, the period of the late 1930s and early 1940s, is related to the rise of industrial unionism in mass production industries, the increase in economic activity during World War II, and public policy acceptance of unionism, which led to the promulgation of P.C. 1003, an Order-in-Council along the lines of the historic American legislation, the Wagner Act of 1935. The second phase, from 1944 through the immediate postwar period until 1954, was marked by a steady increase in union organization, with aggregate union membership nearly doubling and union coverage expanding in forestry, mining, construction, transportation, public utilities, and services. The next ten years, from 1954 to 1964, were a period of slow growth and virtual stagnation in new union organization. With the near saturation in the unionization of blue-collar workers, the union movement faced difficulties in organizing expanding

sectors of white-collar employment. Union influence showed a declining trend in this period owing to recessionary losses in blue-collar employment, a rapid growth in the proportion of unorganized white-collar workers, and the preoccupation of union leaders with the task of unification following the establishment of the CLC in 1956. Union growth entered a new phase in 1964 with the extension of collective bargaining rights to public service employees, first in Quebec, then in the federal public service, and subsequently in other provinces. The growth picked up momentum in the early 1970s with the “unionization” of teachers, nurses and related public sector groups.<sup>35</sup> The growth process in the 1970s was further aided by intense merger activity, and related initiatives for rationalization of union structures, growing emphasis on Canadianization and Canadian autonomy, and increased organizational activity as a result of coordinated white-collar organization campaigns.

### *Aggregate Membership Growth*

Historical accounts suggest that the trade union movement in Canada did not establish firm roots until the last decade of the 19th century. Official union statistics do not exist prior to 1900, when the federal Department of Labour was established, and the first union membership figures were not published until 1911. The number of union locals and total union membership for the period 1900–83 are presented in Table 2-1. The figures show that the general trend of union growth since the beginning of this century, whether measured in terms of number of locals or of total membership, has been continuously upward except for the interwar years. Union organization grew steadily in the first two decades, with only a minor setback in 1914 and 1915 owing to “war recruiting and depression.” Growth stagnated in the 1920s and 1930s as a result of jurisdictional conflicts and internal dissension within the labour movement and the Great Depression.<sup>36</sup>

With the rise of industrial unionism in mass production industries and the introduction of labour legislation providing for compulsory collective bargaining and better protection of a worker’s right to join a union, the expansion resumed in the 1940s and continued unabated until 1981–82, except for a few years in the early 1960s. Unions made significant advances in the 1940s, especially during the war years. The membership continued to grow in the 1950s, but at a considerably slower pace, and reached a plateau by the mid-1950s with no change in either the number of organized workers or the number of locals. Part of the explanation for this slowdown was that unions were emerging from a period of unprecedented growth that reduced the reservoir of potential for further blue-collar organization. At the same time, white-collar employment was beginning to increase rapidly, and these employees tended to be more difficult to organize than blue-collar workers. Moreover, organized labour was going through a time of consolidation, with

TABLE 2-1 Statistics on Union Membership in Canada, 1900-83

Year	Locals	Union Membership (000s)	Union Membership as Percentage of Civilian Labour Force	Union Membership as Percentage of Non-Agricultural Paid Workers
1900	650			
1901	800			
1902	960			
1903	1,150			
1904	1,200			
1905	1,200			
1906	1,270			
1907	1,430			
1908	1,540			
1909	1,620			
1910	1,625			
1911	1,741	133		
1912	1,883	160		
1913	2,017	176		
1914	2,003	166		
1915	1,883	143		
1916	1,842	160		
1917	1,974	205		
1918	2,274	249		
1919	2,847	378		
1920	2,918	374		
1921	2,668	313	9.4	18.4
1922	2,512	277	8.2	15.5
1923	2,487	278	8.1	14.2
1924	2,429	261	7.5	14.0
1925	2,494	271	7.6	14.4
1926	2,515	275	7.5	13.6
1927	2,604	290	7.7	13.6
1928	2,653	301	7.8	13.2
1929	2,778	319	8.0	13.2
1930	2,809	322	7.9	13.9
1931	2,772	311	7.5	15.3
1932	2,710	283	6.7	15.3
1933	2,687	286	6.7	16.7
1934	2,720	281	6.5	14.6
1935	2,717	281	6.4	14.5
1936	2,860	323	7.2	16.2
1937	3,231	383	8.5	18.2
1938	3,280	382	8.3	18.4
1939	3,267	359	7.7	17.3
1940	3,221	362	7.9	16.3
1941	3,318	462	10.3	18.0
1942	3,426	578	12.7	20.6
1943	3,735	665	14.6	22.7
1944	4,123	724	15.9	24.3
1945	4,329	711	15.7	24.2
1946	4,635	832	17.1	27.9

TABLE 2-1 (cont'd)

Year	Locals	Union Membership (000s)	Union Membership as Percentage of Civilian Labour Force	Union Membership as Percentage of Non-Agricultural Paid Workers
1947	4,956	912	18.4	29.1
1948	5,114	978	19.4	30.3
1949	5,268	1,006 <sup>a</sup>	19.3	29.5
1950	—	— <sup>b</sup>	—	—
1951	5,458	1,029	19.7	28.4
1952	6,052	1,146	21.4	30.2
1953	6,235	1,220	23.4	33.0
1954	6,425	1,268	24.2	33.8
1955	6,673	1,268	23.6	33.7
1956	6,762	1,352	24.5	33.3
1957	6,758	1,386	24.3	32.4
1958	6,853	1,454	24.7	34.2
1959	6,763	1,459	24.0	33.3
1960	6,805	1,459	23.5	32.3
1961	6,945	1,447	22.6	31.6
1962	6,989	1,423	22.2	30.2
1963	7,073	1,449	22.3	29.8
1964	7,404	1,493	22.3	29.4
1965	6,629	1,589	23.2	29.7
1966	7,676	1,736	24.5	30.7
1967	8,678	1,921	26.1	32.3
1968	9,273	2,010	26.6	33.1
1969	9,310	2,075	26.3	32.5
1970	9,593	2,173	27.2	33.6
1971	10,056	2,231	26.8	33.6
1972	10,462	2,388	27.8	34.6
1973	10,566	2,591	29.2	36.1
1974	12,567	2,732	29.4	35.8
1975	11,523	2,884	29.8	36.9
1976	11,659	3,042	30.6	37.3
1977	12,837	3,149	31.0	38.2
1978	14,714	3,278	31.3	39.0
1979	n.a.	n.a.	n.a.	n.a.
1980	14,869	3,397	30.5	37.6
1981	15,555	3,487	30.6	37.4
1982	15,412	3,617	31.4	39.0
1983	15,255	3,563	30.6	40.0

Sources: *Labour Gazette* (anniversary issue, 1975) and *Directory of Labour Organizations in Canada* (annual).

Note: For 1921-30, union density figures are estimated using census wage earner data.

a. Includes Newfoundland for the first time.

b. Data on union membership for all years up to and including 1949 are as of December 31.

In 1950 the reference date was moved ahead by one day to January 1, 1951. Thus, while no figure is shown for 1950, the annual series is, in effect, continued without interruption. The data on union membership for subsequent years are also as of January 1.

union leadership more preoccupied with unifying the existing ranks than with organizing new areas.

A recessionary economy in the early 1960s had a further dampening effect on union organization. Aggregate membership actually fell in 1960 and 1961, and union density declined from 33 percent in 1958 to 29 percent in 1963. However, union membership growth began to regain some of its momentum in the late 1960s, largely as a result of the extension of collective bargaining rights to federal and Quebec public service employees.<sup>37</sup>

The 1970s represented the most significant phase of expansion in union organization since the 1940s; almost one-and-a-half million workers joined unions between 1970 and 1982, and the proportion of unionized workers in the non-agricultural work force rose from 33.6 to 39 percent, the highest level of union organization in the history of the Canadian labour movement. The spurt in union activity in the 1970s was related to a number of favourable economic and labour market trends and to far-reaching public policy changes. Although economic growth was erratic and uncertain, marked by high inflation and rising unemployment, labour demand during the decade of the 1970s was buoyant, and real wages were increasing until 1977. Employment growth was especially strong in government sectors and in education, health and related services. Unions were able to achieve significant economic and organizational gains in this environment. The organizational boom was further aided by legislative and public policy changes extending collective bargaining rights to provincial civil servants, nurses and teachers, following the federal legislation in 1967 granting such rights to federal public service employees. The impact of these legislative changes was reflected in the rapid unionization of public sector employees: indeed, more than one-half of the union membership growth in the 1970s was due to the spread of union organization in these new areas.<sup>38</sup> Other legislative modifications providing a more favourable organizational climate for unions included a broadened definition of "employee" in labour relations legislation; a reduction in the minimum level of membership support required for certification, expediting the certification process; expansion of the powers of the labour relations boards to grant automatic certification; and improved union security provisions through compulsory check-off of union dues. These favourable changes in the external environment were also reinforced by the rationalization of union structures through merger activity and realignments.

### *New Certifications*

The number of new certifications granted by labour relations boards in various jurisdictions, considered a measure of new union organization, provides additional perspectives on union membership growth. Table 2-2 gives the total number of new certifications granted in federal and all

**TABLE 2-2 Comparison of Union Membership Growth,  
Collective Agreement Coverage, Certification Activity,  
Canada, 1950-82**

Year	Union Membership (000s)	Union Density	Proportion of Workers Covered by Collective Agreement			Number of Certifications Granted <sup>b</sup>
			Total <sup>a</sup>	Non-Office	Office	
1950	1,006	29.5	37.9			1,542
1951	1,029	28.4	38.9			2,217
1952	1,146	30.2	40.0			1,756
1953	1,220	33.0	39.9			1,525
1954	1,268	33.8	39.8			1,434
1955	1,268	33.7	39.1			1,943
1956	1,352	33.3	38.7			2,235
1957	1,386	32.4	n.a.			2,201
1958	1,454	34.2	n.a.			1,776
1959	1,459	33.3	50.7	64	14	2,047
1960	1,459	32.3	50.1	62	15	2,056
1961	1,447	31.6	47.5	62	13	1,951
1962	1,423	30.2	47.6	62	12	2,116
1963	1,449	29.8	46.3	61	13	2,091
1964	1,493	29.4	47.3	63	12	2,716
1965	1,589	29.7	42.7	58	11	3,103
1966	1,736	30.7	43.5	58	14	3,343
1967	1,921	32.3	43.5	58	14	3,380
1968	2,010	33.1	43.7	59	15	3,890
1969	2,075	32.5	46.7	62	19	2,641
1970	2,173	33.6	n.a.	n.a.	n.a.	1,979
1971	2,231	33.6	51.5	65	28	3,354
1972	2,388	34.6	53.1	66	32	3,429
1973	2,591	36.1	53.5	67	31	3,777
1974	2,732	35.8	55.8	70	33	3,863
1975	2,884	36.9	56.3	71	34	3,326
1976	3,042	37.3	57.4	72	37	3,033
1977	3,149	38.2	57.4	73	36	2,638
1978	3,278	39.0	57.9	72	38	2,649
1979	n.a.	n.a.	57.8	72	38	2,823
1980	3,397	37.6	58.1	73	36	3,277
1981	3,487	37.4	58.8	73	38	3,352
1982	3,617	39.0	58.0	73	38	3,215

*Source:* Union membership and density, Canada, Department of Labour, *Labour Organizations in Canada*; proportion of workers covered by collective agreements, Canada, Department of Labour, *Working Conditions in Canadian Industry and Labour Gazette* 57 (1957); certifications granted, from provincial and federal labour relations boards or departments of labour.

- a. For 1971-81 inclusive, total figures also include "other employees," that is, "operating" employees in transportation, sales staff in trade, nurses and technical staff in hospitals, and beginning in 1972, firemen and policemen in local administration; these employees are not included in figures for either non-office or office employees.
- b. Totals include certifications in federal and all provincial jurisdictions except P.E.I. and Newfoundland. Where possible all figures are based on a calendar year; however, for some years and jurisdictions fiscal years had to be used.

provincial jurisdictions except Prince Edward Island and Newfoundland from 1950 through 1982. For purposes of comparison, figures for total union membership, union density, and the proportion of workers covered by collective agreements are also included. (It should be noted that the certification figures are gross rather than net figures, since the number of decertifications are not taken into account. Figures also do not include cases where bargaining units may have been voluntarily recognized by employers without a formal application for certification.) The figures appear to show that new union organization activity, as measured by the number of certifications granted, was up significantly in the latter half of the 1950s, slowed down in the early 1960s, gained a new momentum in the late 1960s and early 1970s, and has been declining in more recent years. This trend in new certifications closely parallels the average annual rate of change in total union membership.

### *Collective Bargaining Coverage*

A further perspective on expanding union organization in Canada can be obtained by examining trends in the estimates of the percentage of workers covered by collective agreements. The collective bargaining coverage, like the union density measure, shows an upward trend in early post-World War II years, a decline between 1959 and 1965, virtually no change during 1966–68, and then a steady rise during most of the 1970s. The table further shows that the incidence of the decline in the early 1960s and the rapid increase in collective bargaining coverage during the 1970s has been uneven across blue-collar and white-collar occupational groups. This uneven pattern is related, among other things, to the near saturation in blue-collar worker unionization by the late 1950s, the very low base of white-collar organization until the mid-1960s, the extension of collective bargaining rights to public and semi-public employees in the late 1960s and early 1970s that resulted in the sudden dramatic increase in collective bargaining coverage of these workers, and the expanded organizational efforts to organize white-collar workers in the early 1970s.

### *Pattern of Growth and Related Structural Changes*

While aggregate union membership in Canada has been increasing steadily since the beginning of the 1940s, except for a brief period of decline in 1961–62, the pattern of growth by industry, region, type of union, and membership size has diverged markedly in each of the four decades. In the 1940s, the period in which total union membership more than doubled to reach the one-million mark, growth was largely concentrated among blue-collar workers in forestry, mining, manufacturing, construction, and transportation sectors, in the heavily industrialized provinces of Ontario and Quebec, and in resource-based industry-dominated

British Columbia. The main stimulus to union organization in this period was provided by the international unions, with significant gains being recorded by the United Automobile Workers, the United Steelworkers of America, and the Carpenters' Union.<sup>39</sup> By 1951 union membership as a proportion of paid workers had reached 72 percent in forestry, 68 percent in mining, 35 percent in manufacturing, 33 percent in construction, 70 percent in transportation and communications (79 percent in railways), 23 percent in utilities, and 15 percent in services (largely confined to local governments, west coast hotel and restaurant employees, and postal workers).<sup>40</sup> Membership in large unions similarly showed rapid gains during this period. In 1941 there were only five trade unions with a membership of 15,000 and over, accounting for about 91,000 members, less than one-fifth of the total union membership. In contrast, almost one-half of the nearly one million union members in 1951 belonged to 19 unions with 15,000 and more members.<sup>41</sup> The proportion of paid workers under union organization between 1941 and 1951 nearly doubled in Ontario from 13 to 24 percent and increased from 19 to 25 percent in the Atlantic provinces, 16 to 23 percent in Quebec, 15 to 25 percent in the Prairie provinces, and 22 to 38 percent in British Columbia.<sup>42</sup>

The period from 1951 through 1964 was marked by slow union growth and consolidation of union organization in goods-producing industries; total union membership increased by only 56 percent, compared with a 178-percent increase in the 1940s, largely due to expanding union membership in manufacturing, construction and utilities in the first half of the 1950s. Union density declined during this period in forestry, mining and services, rose substantially in construction (from about 33 to 66 percent) and utilities (from 23 to 48 percent), increased marginally in manufacturing and trade, and remained virtually stagnant in transportation and communications, except in railways, where it rose from 73–74 percent in 1952–54 to 84–86 percent in the early 1960s.<sup>43</sup> Within manufacturing, union density was up significantly in food and beverages, rubber products, clothing, metal products, transportation equipment, electric products, and petroleum and coal, but remained either unchanged or declined somewhat in other industry groups.<sup>44</sup> The increased density in all industries was mainly due to expanded membership, although in some cases, for example in rubber, clothing, transportation equipment and petroleum, it was magnified by stagnant employment growth. Similarly, in industries where union density had either not changed or declined, union membership growth was either stagnant or slower than employment growth.

The pattern of growth by industry is reflected in the membership growth of major trade unions. For example, among the large industrial unions, both national and international, membership either stagnated or declined during the 1950s in the United Automobile Workers, United Mine Workers, United Rubber Workers of America, United Textile

Workers of America, and Canadian Brotherhood of Railway Workers, largely because of declining employment in industries where membership was concentrated. At the same time, the membership of unions such as the United Steelworkers of America, Teamsters, Carpenters, International Brotherhood of Electrical Workers, Labourers' International, International Union of Operating Engineers, Energy and Chemical Workers' Union, Service Employees' International Union, and Canadian Union of Public Employees (which came into existence in 1963 through the merger of the National Union of Public Service Employees and the National Union of Public Employees) was up significantly because of both employment growth and expanded union organization.

The large unions continued to make membership gains in the 1950s. Unions with 15,000 or more members in 1961 totalled 29 (compared with 19 in 1951), and had a combined membership of about 800,000 (486,000 in 1951), accounting for about 59 percent (52 percent in 1951) of the total membership of all unions in Canada.<sup>45</sup> Regionally, the pattern of union membership growth in the 1950s did not differ markedly from that of the past decade; the growth in Ontario, Quebec and British Columbia continued to outpace growth in other regions. Union membership as a percent of paid workers increased from 38 to 45 percent in British Columbia, 24 to 29 percent in Ontario, 23 to 27 percent in Quebec, and 25 to 27 percent in the Atlantic provinces, but declined slightly from 26 to 24 percent in the Prairie provinces.<sup>46</sup>

With the extension of collective bargaining rights to government employees in the mid-1960s, the trade union movement in Canada entered a new phase of growth characterized by expanded coverage in new areas of the economy and labour force. These legislative initiatives were largely responsible for boosting the aggregate union membership from one-and-a-half million in 1964 to more than two million in 1970 when public service employees, who were earlier organized into professional associations, put on their "union hat" and became a part of the trade union movement.<sup>47</sup> Union membership showed a similar jump in the first half of the 1970s, when teachers and nurses joined the union ranks.<sup>48</sup> Labour Canada estimates of union membership growth by industry, available only to the year 1977, show that of the 1.6 million increase in total union membership between 1964 and 1977, over 900,000, or three-fifths of the total, was due to the unionization of public service, education and health employees.<sup>49</sup>

During the 1960s union density was almost unchanged in manufacturing, construction, and trade, declined in mining and transportation, rose marginally in forestry and services, and more than tripled, from 26 to 79 percent, in public administration.<sup>50</sup> Similarly, in the 1970s, while there were only minor changes in the degree of unionization in most industries, the proportion of paid workers in service industries who were union members almost doubled from 19 percent in 1970 to 34 percent in

1981, largely because of expanding union organization in education and health services.<sup>51</sup>

The dramatic change in the pattern of union organization in the past two decades, from a predominantly blue-collar and goods-producing industry base to a white-collar, public sector orientation, is reflected in Labour Canada estimates of collective bargaining coverage of office and non-office workers by major industry groups (excluding construction) available for the period 1965–81. These estimates indicate that collective bargaining coverage of non-office workers in 1965 was largely concentrated in logging, mining, manufacturing, and transportation, where 70 percent or more of workers were covered by collective agreements; only one-third of the non-office workers in service industries and 28 percent in public administration had collective bargaining coverage. Among office workers, except for transportation where about one-half of the workers were covered by collective agreements, the coverage by industry ranged between 0.5 percent and 18 percent. There was a dramatic change, however, between 1965 and 1971. While the coverage of both office and non-office workers remained virtually unchanged in goods-producing industries, in public administration 84 percent of non-office and 74 percent of office workers were under collective agreements in 1971. By 1981 the figures for both categories of worker had increased to 90 percent. A similar trend was evident for workers employed in service industries (excluding teachers and nurses) in the 1970s; whereas the coverage of both office and non-office employees in these industries was almost unchanged between 1965 and 1971, it rose during 1971–81 from 19 to 30 percent for office workers and from 33 to 53 percent for non-office employees. (The coverage would be even higher if teachers and nurses were included, since both employee groups are almost completely unionized.)

The rapid rise in the membership of public sector unions (those unions whose membership consists either predominantly or exclusively of public sector employees) over the last two decades highlights the significant contribution of public sector unionism to overall union membership growth. In 1961 only 15 public sector unions with a combined membership of approximately 183,000 were listed in the *Directory of Labour Organizations in Canada*. In 1971 their number had risen to 27 and their membership to nearly 572,000. By 1981 public sector unions numbered 71 and commanded a membership of almost one-and-a-half million workers. Consequently, while only one out of eight union members belonged to public sector unions in 1961, almost two of every five unionists in Canada were public sector union members 20 years later.<sup>52</sup> Of the two-million increase in aggregate union membership between 1961 and 1981, more than half can be attributed to the growth of public sector unions.<sup>53</sup> The growth profiles of labour organizations such as the Canadian Union of Public Employees (CUPE), the Public Service Alliance of

Canada (PSAC) and the National Union of Provincial Government Employees (NUPGE) are testimony to this unique role of public sector unions in overall Canadian union growth since the mid-1960s. The membership of CUPE has trebled since its formation in 1964, from 86,000 to 267,000 in 1981, while the rank and file of the PSAC has grown from 92,000 in 1967 to 155,000 in 1981, and NUPGE has more than doubled its membership, increasing from 101,000 in 1977 to 210,000 in 1981. This growth is a result of both aggressive union organizing and accelerated expansion in public employment in the sixties and seventies.

In addition to increasing total union membership and the degree of unionization, organization of public sector employees in the past two decades had a number of significant direct and indirect effects on the nature and characteristics of the Canadian trade union movement. Public sector organization has resulted in geographic expansion of the trade union movement, an increase in the importance of national unions, accelerated unionization of blue-collar and white-collar workers, and consolidation of union membership in large units. Public sector unionism has enabled the union movement to expand its organizational base from the traditional industrial heartland of Quebec and Ontario to other regions of Canada, making it more national in character and scope. For example, in 1962 three provinces — Ontario, Quebec and British Columbia — accounted for more than three-fourths of the total union membership in Canada, and union density by province ranged from 15 percent in Prince Edward Island to 45 percent in British Columbia. By 1981 the gap in union density had narrowed from 30 to 18 percentage points, largely because of the spread of unionization among public service employees and workers in education and health; union density remained almost unchanged in Ontario (at 34 percent), rose slightly in British Columbia (from 45 to 46 percent) and Alberta (from 26 to 28 percent), increased strongly in Manitoba (from 31 to 37 percent), Saskatchewan (from 30 to 39 percent), Nova Scotia (from 29 to 37 percent), New Brunswick (from 26 to 42 percent), and Quebec (from 27 to 39 percent), and more than doubled in Prince Edward Island (from 15 to 37 percent) and Newfoundland (from 30 percent to 61 percent).<sup>54</sup> The growth of membership in government employees' organizations provides some insights into the reasons for the convergence in regional union density; over the 1962-81 period, membership in these unions increased more than sixfold in Newfoundland, nearly quintupled in Prince Edward Island and the Northwest Territories, almost quadrupled in Quebec, more than tripled in Alberta and British Columbia, and increased two-and-a-half times in Nova Scotia, New Brunswick, Ontario, and Saskatchewan.<sup>55</sup>

With the emergence of public sector unions, which are primarily national unions, there has been a marked decline in the relative numerical importance of the international unions that have been a dominant

force and a unique characteristic of the Canadian labour movement since the early days. International unions accounted for 80 to 90 percent of total Canadian union membership after 1910 and in the 1920s.<sup>56</sup> The proportion of their membership in the total fluctuated considerably in the 1930s and 1940s, was in the 70 percent range between 1948 and 1966, and has been falling steadily over the past two decades, reaching a record low of 41 percent in 1983. The trend is evident in the membership growth rates of the two types of unions: whereas the average annual rate of increase in national union membership almost doubled from 4.6 percent in the 1950s to about 9 percent in the 1961–81 period, the growth rate of international union membership declined to about one-half of the average annual membership increase in the 1950s. Table 2-3 highlights this trend by comparing membership growth of six major international industrial unions, the 13 international building trades unions and five major public sector employee organizations. (The three groups accounted for about two-thirds of total union membership in Canada in 1982. Two of every three international union members were in six international industrial unions and the 13 building trades unions. Similarly, nearly two-thirds of national union membership was in the five public sector union groups.) Over the 1963–82 period, the membership of public sector unions increased at an annual rate of 13 percent, more than three times the rate of increase of international union membership. If figures for membership when public sector unions were employee associations and did not have collective bargaining rights are used, the growth rates still differ, though not as much. Further analysis reveals that between 1951–63 and 1963–82 the rate of increase in public sector union membership was up substantially, whereas the membership growth rate of six large international industrial unions was unchanged and those of building trades declined. Consequently, while only one-third of the national union membership was in public sector unions in 1963, the proportion had risen to two-thirds by 1982.

The increased importance of national unions and the decline in the relative role of internationals are further reflected in the ranking of the 15 largest unions in Canada between 1963 and 1982, a period marked by a rapid increase in public sector unionism. In 1963, 12 of the 15 large unions in Canada were internationals. Only three were national unions, the Canadian Brotherhood of Railway Workers, the National Union of Public Employees and the National Union of Public Service Employees. (The last two merged in late 1963 to form the Canadian Union of Public Employees.) By contrast, in 1982 six of the top 15 unions were national unions, five of them public sector organizations, three of them with the largest membership.

The national union trend is also related to the “breakaways” and the development of autonomous Canadian organizations from former Canadian sections of the internationals, particularly in the last decade.<sup>57</sup>

TABLE 2-3 Membership Growth Profile of Major Unions in Canada, 1951-82

Unions	Membership			Average Annual Percentage Change		
	1951	1963	1982	1951-82	1951-63	1963-82
<b>Six Major Industrial Unions</b>						
United Auto Workers	245,610	360,050	674,213	3.3	3.2	3.4
United Steelworkers	60,000	61,101	121,829	2.3	0.2	3.7
Teamsters	80,225	115,270	197,000	3.0	3.1	2.9
United Food & Commercial Workers	28,622	58,220	93,000	3.9	6.1	2.5
Machinists	29,551	47,175	135,000	5.0	4.0	5.7
Woodworkers	26,734	40,413	64,382	2.9	3.5	2.5
	20,478	37,871	63,000	3.7	5.3	2.7
<b>Thirteen Building Trades</b>						
Asbestos Workers	92,993	185,752	370,351	4.5	5.9	3.7
Boilermakers	326	1,398	2,344	6.4	12.9	2.8
Bricklayers	7,192	4,500	10,821	1.3	-3.8	4.7
Carpenters	3,817	5,998	8,000	2.4	3.8	1.5
Electrical (IBEW)	36,632	61,210	91,410	2.8	3.9	2.1
Elevator Constructors	15,000	35,458	70,993	5.0	7.4	3.7
Iron Workers	—	1,329	2,200	—	—	—
Laborers	2,081	7,677	21,000	7.6	11.5	5.4
Operating Engineers	3,182	18,179	55,447	9.5	15.6	6.0
Painters	4,806	12,995	35,300	6.6	8.6	5.4
Plasterers	4,524	6,629	13,112	3.5	3.2	3.7
Plumbing & Pipefitting	1,427	3,487	2,700	2.0	7.7	-1.3
Sheet Metal Workers	9,200	18,941	38,024	4.6	6.2	3.7
	2,806	7,951	19,000	6.3	9.1	4.7

<b>Five Public Sector Union Groups</b>	30,771	103,672	12.2	10.6
Public Service Alliance of Canada	7,377 <sup>b</sup>	(518,091) <sup>a</sup>	—	(26.5)
Canadian Union of Public Employees	2,273 <sup>d</sup>	(116,000) <sup>c</sup>	157,633	10.4
Provincial Government Employees <sup>f</sup>	16,276	85,890 <sup>e</sup>	274,742	16.7
Teachers	4,845 <sup>g</sup>	14,618	286,614	9.7
Nurses	—	(70,987)	(70,169)	—
		3,164 <sup>g</sup>	329,285	14.6
		(175,045)	96,109	(34.8)
		—	—	—
		(70,169)	(70,169)	(1.7)

*Source:* Canada, Department of Labour, *Directory of Labour Organizations in Canada* (annual); and *Union Growth in Canada in the Sixties*, 1976. Figures in parentheses are Department of Labour estimates of membership of public sector associations prior to their certification as legal bargaining groups; see Canada, Department of Labour, 1975.

- b. Membership of the Civil Service Association of Canada.
- c. Members of Civil Service Association of Canada and the Civil Service Federation of Canada, which merged in 1967 to form the Public Service Alliance of Canada.
- d. Membership of National Union of Public Service Employees (NUPSE).
- e. Includes members of NUPSE and National Union of Public Employees, which merged in 1963 to form Canadian Union of Public Employees.
- f. Includes members of National Union of Provincial Government Employees and unaffiliated provincial government employee unions.
- g. Members of the Federation of Municipal and School Employees of Quebec.

While the list is not long, some of the breakaways have had a major impact. For example, the three major private sector national unions — the Canadian Paperworkers' Union, the Communications Workers of Canada, and the Energy and Chemical Workers' Union — are a product of the breakaways. While the wish to be “maîtres chez nous” is a common thread running through all the “breakaways,” the primary motivation for the Canadian members of international unions to seek autonomy has usually been peculiar to each case.

The Canadian autonomy issue has been prominent since the early days of the Canadian labour movement. The turning point came in 1970 at the CLC convention where Canadian Standards of Self-Government were first adopted. These standards, which were expanded in 1974, provide that Canadian members elect Canadian officers; elected Canadian officials and members determine policies dealing with national affairs; elected Canadian representatives have the authority to speak for the union in Canada; a separate affiliation with international trade secretariats is granted to Canadian sections of international unions; and Canadian membership will not be prevented by constitutional requirements or policy decisions from participating in the social, cultural, economic or political life of Canada.

The rapid development of public sector unions has been a factor in the stepped-up activity to organize the unorganized blue-collar and white-collar workers through what is sometimes described as the “proximity influence.” This phenomenon operates in several ways. First, unorganized workers are able to see the comparative benefits and costs of unionization when others in the same locality, workplace or occupation are unionized. Second, the unorganized sector is more likely to get both political and financial support for its unionization drive if there are “proximate” unionized workers to provide that support. Third, resistance to unionization by employers tends to be reduced if organized workplaces exist in similar sectors or occupations.

There are many cases of the proximity influence having an impact on organization in the public and quasi-public sectors in the late 1960s and 1970s. Unlike their federal and provincial counterparts, municipal employees in most Canadian jurisdictions are covered as private sector employees, and have enjoyed the right to organize and bargain collectively for decades.<sup>58</sup> Until the mid-1960s, however, organized municipal workers were concentrated primarily in large urban centres and in blue-collar occupations.<sup>59</sup> The exercise of collective bargaining rights by these blue-collar workers and the rapid organization of white-collar employees of provincial and federal governments may have facilitated the formation of white-collar bargaining units and the organization of municipal workers in smaller cities and suburban towns.<sup>60</sup> Similarly, in education, the efforts to organize blue-collar workers in schools bene-

fited from their proximity to unionized teachers. In health, the unionization of hospital nurses was accompanied by organization of nursing assistants and paramedical staff and blue-collar workers in chronic care facilities and homes for the aged. The near tripling of the membership of CUPE between 1965 and 1982 is a testament to the strength of the proximity influence. CUPE's growth since its formation in 1963 has been primarily due to its organizing efforts among local government employees and workers in health and education. The growth of the Service Employees' International Union is another example: the union grew from 14,000 to 65,000 members between 1965 and 1982, with the bulk of its organizing efforts being made among blue-collar workers in health organizations.

Finally, the Canadian trade union movement is less fragmented and more consolidated owing to the emergence of large public sector unions and the intense merger activity during the last two decades. In the past, the multiplicity of unions was cited as an important factor in the weakness of the Canadian trade union movement, since small unions are invariably unable to provide an adequate level of services to their members or to bargain effectively with large employers. They cannot, for example, provide such specialized services as research, labour education and public relations, and do not have the resources to finance organizational efforts. Union leaders have believed that unions below a certain membership — a minimum of 20,000, according to one leader<sup>61</sup> — cannot function effectively. Central labour federations, like the Canadian Labour Congress, have therefore continually encouraged union mergers.<sup>62</sup> Formation of large unions, through mergers and realignments, has been prompted in some cases by growing oligopolistic structures in some product markets, for example, in food retailing.

The consolidation of membership in large units is evident in the number of unions in existence, the size distribution of union membership, growth rates of large versus small unions, the listings of the 15 largest unions between 1963 and 1982, and the large number of mergers that have occurred in the past two decades. The following statistics for the period 1963–82 provide a brief perspective on this trend to consolidation:

- While union membership more than doubled, the number of unions increased only from 161 to 220.
- Average membership size went up from 8,587 members per union to 15,320 per union.
- While there were only 11 unions with a membership of 30,000 and over in 1963, accounting for about two-fifths of the total Canadian union membership, 28 unions had more than 30,000 members in 1982, with a combined membership of 2.26 million, more than two-thirds of the total union membership.

- Only four unions had more than 50,000 members in 1963, compared with 16 in 1982 (six with more than 100,000 members).
- Membership of unions with over 30,000 members has more than quadrupled, from half a million to 2.26 million.
- The proportion of total union membership accounted for by the four largest unions went up from 18 to 24 percent. In 1963 these four largest unions were all private sector unions, but three of the four largest unions in 1982 were public sector unions.

Union membership figures further indicate that the trend toward larger unions has been more pronounced in international unions than in nationals despite the emergence of large public sector unions. For example, while the average size of international union membership more than doubled from 1963 to 1982, rising from 9,400 to 19,900, the average membership of national unions rose from 8,600 to 13,000. Similarly, while the number of international unions shrank from 110 in 1963 to 74 in 1982, the number of national unions increased over this period from 51 to 146; this increase can be largely attributed to the rise of small unions as a result of breakaways from internationals or the conversion of employees' associations of policemen, firefighters and educational workers into trade unions. Thus, while there appears to be a consolidation trend in internationals with the disappearance of small unions and the expansion of membership in large unions, the membership of national unions is becoming increasingly dispersed as a result of the growth of small unions and the growing concentration of membership in a few large unions. For example, in 1982 almost one-half of total union membership was in six unions with 50,000 or more members, five of them in the public sector, while 54 unions had fewer than 2,500 members and a combined membership of 49,000, about 3 percent of the total; in 1963 almost one-half of the national union membership was concentrated in 19 unions with a membership ranging between 5,000 and 20,000.<sup>63</sup>

The growing concentration of membership in large unions is also related to the intense merger activity in the past two decades, eliminating many small unions, bolstering the membership of large organizations, and, in some cases, ending intrajurisdictional rivalries.<sup>64</sup> Most of these mergers, except the two that led to the formation of the Public Service Alliance of Canada and CUPE, have involved international unions. Perhaps the most interesting is the merger activity leading to the formation of the United Food and Commercial Workers' International Union (UFCW); the union is a product of a series of significant mergers over a 15-year period. In 1968 the United Packinghouse, Food and Allied Workers joined the Amalgamated Meat Cutters and Butcher Workmen of North America. Eleven years later the Meat Cutters merged with the Retail Clerks' International Union to form the UFCW. The Retail Clerks

had absorbed the Boot and Shoe Workers' Union in 1977 and the Union of Canadian Retail Employees in 1979. In 1980 the UFCW obtained more Canadian membership through mergers with the Barbers, Beauticians and Allied Industries' International Association and the Canadian Allied Manufacturers' Wholesale and Retail Union. Thus, the present-day UFCW is a product of six mergers in the 1967-81 period, and is now the predominant bargaining representative for employees in the food-processing and wholesale/retail trade industries.

A significant prelude to the increased union merger activity of the past two decades was the amalgamation in 1955 of the American Federation of Labor and the Congress of Industrial Organizations in the United States and the merger of the Trades and Labor Congress (TLC) and the Canadian Congress of Labour (CCL) to form the Canadian Labour Congress in 1956. The labour centrals in both the United States and Canada sought to reduce the level of intrajurisdictional competition among affiliates by merging the membership in each industry into one unrivalled organization. In addition, the economic pressure to rationalize union structures was, and remains, considerable. The internal economic factors favouring a merger included the lower per capita cost of delivering services to a larger membership and the more effective coordination of bargaining and organizing activities within a single organization. In some cases, however, the external economic factors may have brought the two formerly autonomous and, perhaps, rival organizations together. For example, changes in technology, the structure of industry, and the composition of the work force have all resulted in a blurring of traditional industry and occupational demarcations, leading in many cases to the merger of related union groups; in other cases, these changes have resulted in broadening of jurisdictions.

There are several reasons for the organizing successes of larger trade unions. First, the larger unions have greater resources than small unions with which to pursue new bargaining units. These resources allow the major unions to have a full-time, highly skilled organizing staff. Likewise, greater resources permit organizers to have greater patience in organizing any one bargaining unit, since large unions are not under as much pressure to receive a quick "return" on their organizing "investment." Large unions can also use their resources to launch major organizing drives in specific industrial sectors or geographical areas and thereby use the "proximity influence" to its fullest advantage. Second, the large international and national unions can often deliver a higher level of services to the prospective membership at a lower cost than their smaller counterparts. These differences in the benefits and costs of unionization improve the chances of certification, at least over the long run. Third, large labour unions tend to be more broadly based organizations with membership in a number of different industries. Such organi-

zations are more able than a single industry union to move their recruiting efforts from an industry with stagnating or decreasing employment to expanding industrial sectors.

## ***Legislative Changes and Union Growth***

Changes in the legislative and public policy framework have been an important underlying factor influencing union membership growth in the past two decades. Federal and provincial legislation encouraging collective bargaining, increases in the scope of labour relations legislation, and changes in the processes and regulations for the organization of a union have created a more favourable legal climate within which unions operate.<sup>65</sup>

Although legislation as early as 1872 exempted unions from charges of criminal conspiracy, and later conciliation legislation provided mechanisms for the resolution of disputes, it was not until 1944 that unions gained statutory recognition. In that year, the federal government issued P.C. 1003, the Order-in-Council that guaranteed the right of employees to form and join unions. The Order-in-Council became a federal statute in 1948, and most provincial governments enacted similar legislation during the same period.

In 1967 the federal government passed the Public Service Staff Relations Act, which extended collective bargaining rights to federal civil service employees. Until that time, the only jurisdictions in which public service employees had recognition and bargaining rights were Saskatchewan (in 1944) and Quebec (in 1964). Over the next few years the other provincial governments enacted fairly similar legislation, and, by the mid-1970s, public service workers in all jurisdictions had collective bargaining rights.

A more favourable legal environment for unionization has also developed through an expansion in the scope of labour relations legislation. Amendments to the various labour relations acts have broadened the definition of "employee," making more workers eligible for unionization. For example, a number of professional groups, formerly excluded, have been brought within the scope of labour relations legislation or, as in the case of teachers, policemen or firemen, are covered by special legislation. Managerial workers, those employed in a confidential capacity in matters relating to labour relations, a few professional groups (medical, architectural) in some jurisdictions, domestics and agricultural employees are generally the only other employees not covered by labour legislation.

There have also been changes in the legislative processes and regulations for the organization and recognition of a union and the acquisition, termination or transfer of bargaining rights. These changes have taken a number of forms aimed at expediting or facilitating the certification

process, providing unions with more freedom and protection from undue employer interference during the organizing process, and strengthening the union's position once bargaining rights have been acquired.<sup>66</sup>

Among the modifications in the certification process in some jurisdictions are:

- reduction or elimination of the minimum membership support for a union to apply for certification;
- reduction of the minimum support required for a union to receive automatic certification without a vote;
- granting of automatic certification even where a union may not have majority support if the employer has been guilty of unfair labour practices during union organization; and
- granting of "interim" certification where the appropriateness of the bargaining unit has not yet been determined but there is evidence of adequate membership support.

An increase in prohibition of unfair labour practices includes such measures as:

- a shift in the onus of proof from the union to the employer;
- allowing union organizers limited access to employees who live on premises owned or controlled by the employer;
- provision for a freeze on wages or the terms and conditions of employment at certain times during the organization of a union; and
- expanded restrictions on employer interference with employees in the form of discharge, suspension or transfer of employees for union activities or discrimination against union supporters.

Remedies for unfair labour practices have also been expanded, and include referral to arbitration, imposition of collective agreement terms, awarding of damages to unions, compliance notices, and access orders.

There has also been increased regulation of the process of termination of bargaining rights. For example, there has been a movement to restrict the period when application for termination can be made and to require that a representation vote be held to determine the true wishes of the employees. Stronger legislation relating to successor rights — the status of bargaining rights when a business is closed, sold or transferred — has been introduced, or existing legislation has been expanded.

Legislative changes in certain jurisdictions have helped unions to consolidate their position once bargaining rights have been acquired. These changes include compulsory dues check-off legislation whereby union dues are deducted from all members of the bargaining unit irrespective of union membership; greater enforcement of the duty to bargain in good faith; and imposition of first contract through various measures in some jurisdictions.

## *International Comparisons of Union Growth*

The recent union membership growth in Canada has been impressive when compared with other similar industrialized countries. Table 2-4 provides a statistical overview of union membership growth and density for seven industrialized countries for the period 1961–81. In comparing unionism across countries, however similar they may be, it should be kept in mind that trade union movements are both economic and social institutions, and are as much a product of a country's distinct social, political and cultural tradition as they are of the economic and public policy environment. International comparisons are made even more difficult by the absence of standardized definitions and the use of different survey methods to collect data. Some countries include members of employee associations in the total count, while others do not. Membership data in countries like Sweden and Germany are supplied by central labour federations, but in others, such as Canada and the United States, they are collected through surveys conducted by government.

Table 2-4 shows that union membership levels, growth and density ratios vary considerably in the seven industrialized countries analyzed. The proportion of the wage and salary earners unionized ranges from 88.8 percent in Sweden to 24.7 percent in the United States. Divergences in union density, according to one prominent researcher, can be largely explained by "variations in the extent and depth of collective bargaining and in support for union security either directly from employers or through collective agreements . . . attributable in their turn to the attitudes of employers to trade unions and collective bargaining, with Sweden and the United States at opposite extremes, and to state pressures on employers to recognize trade unions."<sup>67</sup> The rapidity of changes in the scope and coverage of collective bargaining, especially in the public and semi-public sectors, and the marked improvement in legislative provisions on union security could also be cited as the key underlying influence on the relatively high rates of union membership growth in Canada compared to other countries. Figures in Table 2-4 show that Canada has had the highest rate of increase in union membership among the seven countries. As a result, the proportion of the work force unionized in Canada in 1981 exceeded that in Japan and the United States; in 1961 Canada had the lowest percentage among the seven countries of paid workers who were union members.

## *Comparison of the United States and Canada*

A comparison of trends in and patterns of union membership growth in the United States and Canada provides another useful perspective on possible reasons for the divergence in union organization in countries with a similar environment and similar economic, social and political

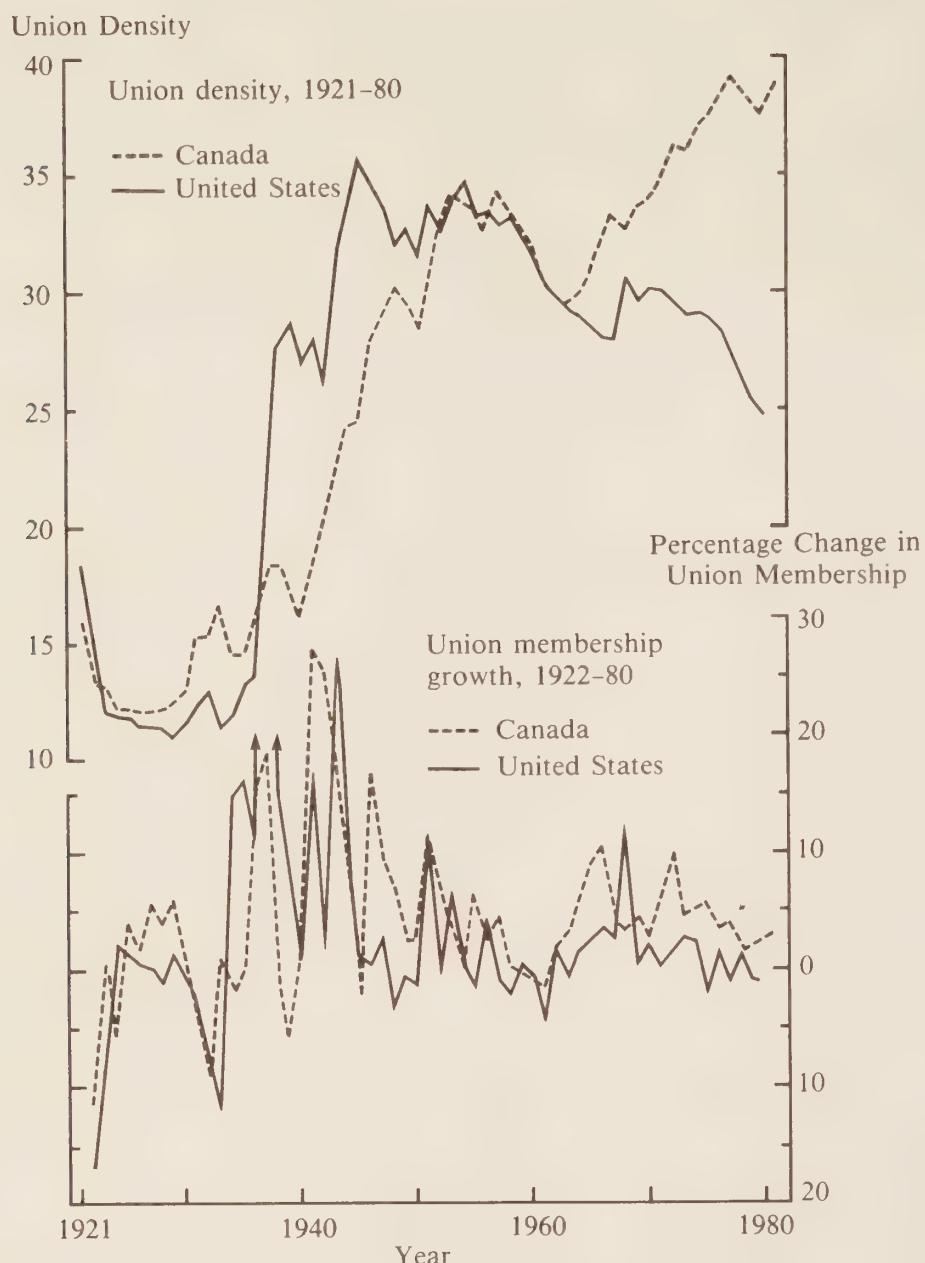
TABLE 2-4 Union Membership Growth and Density in Selected Countries, 1961-81

Countries	Membership (000s)			As Percent of Wage and Salary Earners			Average Annual Percentage Change		
	1961	1971	1981	1961	1971	1981	1961-81	1961-71	1971-81
Australia	1,895	2,437	2,994	59.0	53.1	55.8	2.4	2.5	2.1
Canada	1,447	2,231	3,487	29.5	31.1	35.3	4.6	4.4	4.6
Japan	8,154	11,684	12,355	34.3	34.2	30.6	2.2	3.7	0.6
Sweden	1,922	2,622	3,055	62.5	75.6	88.8	3.1	3.1	2.8
United Kingdom	9,916	11,126	12,182	43.4	50.3	57.5	1.1	1.2	0.9
United States	16,303	21,327	22,396	30.2	29.9	24.7 <sup>a</sup>	1.7	2.7	0.5
West Germany	6,306	8,105	9,340	30.9	37.0	41.9	2.0	2.5	1.4

Sources: Union membership: Australia, Commonwealth Bureau of Census and Statistics, *Official Yearbook of the Commonwealth of Australia*; Canada, Department of Labour, *Labour Organizations in Canada*; Japan, Statistics and Information Department, *Yearbook of Labour Statistics*; Sweden, National Bureau of Statistics, *Statistical Abstract of Sweden*; United Kingdom, Department of Employment, *Employment Gazette*; United States, Bureau of Labor Statistics, *Director of National Unions and Employee Associations*; West Germany, Federal Republic of Germany, *Statistisches Jahrbuch*. Wage and salary earners: OECD, *Labour Force Statistics*.

Note: International comparisons should be approached with caution in view of the different statistical methods and criteria used in compiling the figures.  
a. 1980 estimate.

**FIGURE 2-1 Trends in Union Membership Growth and Density in Canada and the United States**



*Source:* Based on data from Canada, Department of Labour, *Directory of Labour Organizations in Canada*; United States Department of Labor Statistics, *Handbook of Labor Statistics*, Bulletin 2070 (December 1980); *Directory of National Unions and Employee Associations*, 1979, Bulletin 2079 (September 1980); and *News*, USDL 81-446, September 18, 1981.

structures. The two countries not only share a common continental heritage but also have very close economic and institutional links. Also as noted earlier, a unique feature of the Canadian labour movement has been the overwhelming presence of international unions with headquarters in the United States.

Figure 2-1 compares the growth of union membership and union density in the two countries over the period 1921–80. The chart shows that:

- The union growth trend has been similar in the two countries, although the magnitudes of change have differed from time to time.
- Except for a brief interval in the 1930s following the passage of the historic Wagner Act, union membership growth in Canada has been consistently higher than in the United States.
- The divergence in membership growth has become sharper in the past two decades as union membership has continued to expand in Canada, but has slowed down substantially in the United States.
- The disparity in growth has had a marked impact on union density; since 1963, the year in which union density was almost equal in the two countries, the proportion of non-agricultural workers affiliated with trade unions has gone up from 30 percent to about 38 percent in 1980 in Canada, but has declined to less than 25 percent in the United States, the lowest level in the past 45 years.

An analysis of union membership by industry, major occupational group and key trade unions provides a more complete understanding of the trends in U.S. union organization. The analysis reveals that, as in Canada, the main engine of union membership growth in the United States in recent years has been the expanding organization of public and semi-public sector workers, especially of employees in state and local governments. In the United States, unlike Canada, however, union membership growth has actually declined in such traditional sectors of union organization as mining, manufacturing and transportation. Moreover, the growth of construction and service unionism has also not been as robust as in Canada. Thus, while public sector unionism in Canada provided additional stimulus to union organization, in the United States it was the only source of expansion of union membership and an offsetting force to declining growth in other industries.

The virtual stagnation of blue-collar unionization in the United States, not so evident in Canada, is reflected in the growth rates of major industrial and building trades international unions, shown in Table 2-5 for the period 1958-78, the most recent period for which such figures are available. The table shows that membership growth over the 20-year period of six major industrial unions and 13 building trades unions, which combined account for almost one-half of the total U.S. union membership, has averaged 1 to 1.5 percent per annum, compared with a 3 to 4 percent rate of increase in their Canadian membership. More significantly, the growth rates of both these groups of unions have fallen sharply in the past decade. The Canadian experience, however, is different: in Canada, the membership of building trades unions has risen in the past decade and membership of the six internationals has slowed down from 3.5 percent in 1958-68 to 2.3 percent in 1968-78. The membership of a number of key unions such as the United Steelworkers, the Teamsters, the Electrical Workers, and the Laborers has been almost

TABLE 2-5 Growth of Major Unions in Canada and the United States, 1958-78

Industrial Unions	Membership (000s)		Average Annual Percentage Change					
	1978		1958-78		1958-68		1968-78	
	United States	Canada	United States	Canada	United States	Canada	United States	Canada
Total	643.9	7,018.3	2.5	1.6	2.3	2.5	2.9	0.8
United Auto Workers	130.2	1,534.4	4.0	2.0	7.8	3.7	0.2	0.4
United Steelworkers	199.0	1,285.7	2.8	1.4	2.5	1.5	3.2	1.3
Teamsters	93.6	1,923.9	2.7	1.3	3.1	2.0	2.2	0.6
United Food & Commercial Workers	110.0	1,235.5	5.5	4.3	5.4	7.5	5.5	1.2
Machinists	54.3	920.7	0.1	-0.4	-0.3	-0.9	0.6	0.2
Woodworkers	56.7	118.0	1.5	1.6	1.8	1.0	1.3	2.1
Building Trades	361.0	4,029.1	2.6	1.0	2.4	1.4	2.9	0.7
Asbestos Workers	2.3	19.7	3.6	1.8	4.6	2.0	2.6	1.7
Boilermakers	9.5	145.5	-0.7	4.6	-2.9	9.0	1.4	0.4
Bricklayers	11.6	134.7	2.1	-0.8	-3.8	-0.1	8.0	-1.7
Carpenters	89.0	780.4	0.8	-0.3	0.2	-0.5	1.3	-0.2
Electrical (IBEW)	63.0	1,011.7	4.0	1.5	5.9	1.8	2.1	1.2
Elevator Constructors	2.3	17.9	—	3.0	—	4.7	1.6	1.4

Iron Workers	17.2	174.9	1.9	0.7	0.5	1.0	3.3	0.4
Laborers	61.0	610.0	5.3	1.2	3.9	1.5	6.7	1.0
Operating Engineers	34.4	411.9	4.0	2.0	2.8	2.3	5.2	1.6
Painters	13.4	190.0	2.7	0.1	3.5	0.8	1.8	-0.5
Plasterers	3.0	36.8	-0.2	-0.4	2.5	-1.1	-3.0	0.3
Plumbing & Pipefitting	37.0	337.1	3.1	1.4	4.0	1.5	2.2	1.3
Sheet Metal Workers	16.2	158.5	5.1	3.8	8.2	6.4	2.0	1.3
Public Sector	1,022.1	3,669.0	5.1	13.1	4.9	21.1	5.3	5.7

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Directory of National and International Labor Unions in the United States, 1959*, Bulletin 1267 (December, 1959); *Directory of National and International Labor Unions in the United States, 1969*, Bulletin 1665 (1970); *Directory of National Unions and Employee Associations, 1979*, Bulletin 2079 (September, 1980).

Note: In the United States, the public sector unions include American Nurses Association; American Federation of Teachers; American Federation of Government Employees; American Federation of State, County and Municipal Employees. In Canada, the public sector unions include Public Service Alliance of Canada; Canadian Union of Public Employees; National Union of Provincial Government Employees; unaffiliated independent provincial government unions; various independent teachers' and nurses' unions. The membership growth rates of Canadian public sector unions used include combined union and association membership figures to make them consistent with U.S. rates.

unchanged in the United States in the period 1968-78; meanwhile their membership in Canada has been rising, and, despite the slowing trend in some union growth rates, has remained positive.

Public sector unions in the United States, in contrast, appeared to have followed the Canadian trend. The membership of the five largest public sector unions has grown at a rate of 13 percent per year over the 20-year period 1958-78, markedly higher than the rate of growth in comparable Canadian unions. The expansion has been particularly marked in the ranks of the American Federation of State, County, and Municipal Employees, which is like CUPE in Canada, and the American Federation of Teachers. However, the membership of the American Federation of Government Employees has shown an absolute decline during 1968-78 following a 17.3 percent per year increase in the preceding ten years. In Canada, both large government employees' unions, the PSAC and the NUPGE, have continued to expand steadily; it is important to note that unlike those in Canada, public service employees in the United States at the federal level and in many states do not have full collective bargaining rights.

There has been little systematic research on the reasons for the growing divergence in the extent of unionization between Canada and the United States; a full inquiry has the potential to provide important insights into future prospects for union growth in Canada. The divergence can be examined against the background of four principal determinants of union growth: the economic environment, the political and social context, the legal environment, and the organizational and related strategies of unions and of employers. Since the economic environment — both cyclical and structural — has been very similar in the two countries, it probably is not a major factor in union growth disparity, although the size of impact of such factors as real wage and employment growth may have differed.<sup>68</sup> The United States and Canada, however, differ greatly in their political, social and legal frameworks. For example, there is a tradition of greater government involvement in Canada. The Canadian political system is also very different from that of the United States. The labour movement in Canada, unlike the United States, does not espouse "political neutrality." There also appears to be "a greater willingness of nonunionists to take out union membership in Canada."<sup>69</sup>

Differences in the legal framework and related public policy toward unions are cited as the key factor in the diverging pattern of union density in the two countries.<sup>70</sup> In both the United States and Canada, labour-management relationships are initiated by certification of the union as the exclusive bargaining agent, a step that imposes a duty on both the employer and the union to bargain in good faith and a duty on the union to represent all employees in the bargaining unit fairly. Legislation in Canada, however, permits easier certification of new bargaining

units “without a pitched election campaign,” and provides better union security and stronger remedies against unfair labour practices, intimidation or other anti-union tactics by employers.<sup>71</sup> The annual increase in union density from new certifications in Canada (i.e., Ontario and British Columbia) is nearly three times as high as in the United States.<sup>72</sup> New organizing efforts in the United States appear less successful because of an elaborate formal procedure for the representation contest requiring a secret-ballot election following an often protracted representation election, right-to-work laws banning union security provisions, lengthy delays in unfair labour practice remedies, and related gaps in legal enforcement. Some trade union researchers are also of the opinion that the decline in the rate of success in organizing efforts in the United States can be attributed to “a loss in the missionary zeal of union organizers,” and to “the increasingly intensive employer opposition to union organization campaigns,” in some cases the “growing willingness of employers to violate the law in their anti-organizational efforts.”<sup>73</sup> It has also been suggested that “a good percentage of the decline in unionization in the U.S. since 1960 is attributed to the fact that companies that expanded via the opening of new plants have followed location, size and human resource strategies that minimize the risk of getting organized.”<sup>74</sup> A recent union growth study has concluded that:

To understand the trends in union membership [in the United States] . . . no single approach provides all the answers. . . . [T]he shifting composition of industry and the labor force explain part of the recent trend in union membership. Shifts in favor of areas, industries, and occupations traditionally not highly unionized have had important implications for union growth. . . . Evidence also exists that social and political factors have had at least some influence on union growth patterns. Particularly strong evidence exists in support of the importance of legal environment. Finally, studying union and employer tactics is useful in understanding organizing trends. . . .<sup>75</sup>

## **Explaining Union Membership Growth: A Review of the Literature**

The questions “how” and “why” unions and their membership rise and fall have been debated in industrial relations literature for over half a century.<sup>76</sup> The controversy has centred on the view that unionism and the union growth process are primarily linked to the business cycle, and the opposing belief that unions are an outgrowth of a multitude of interrelated political, social, economic, and organizational environments. The business cycle explanation is generally traced to the writings of John R. Commons (1918) and his associates and students at the University of Wisconsin, who in their studies of 19th-century American trade union developments found a close association between union

growth and such business cycle indicators as prices, profits, employment, and unemployment. The pluralistic view that the decision to unionize is a multifaceted process, while largely rooted in early studies of unionism that fail to find a strong and stable relationship between union growth and the business cycle, was initially developed by Hoxie (1936), who believed that “unionism is in essence one of the most complex, diffuse and protean of modern phenomena,” and called for “an interpretation of unionism, not in monistic but in dualistic or pluralistic terms.”<sup>77</sup> John Dunlop in 1948 provided a more systematic and integrated multicausal explanation of union growth by arguing that the union movement is a product of its total environment.<sup>78</sup> The approach was further refined by Shister (1953) and Bernstein (1954) in their empirical studies of early 20th-century American trade union membership growth, and Rezler (1961) in his critique of Dunlop, Shister and Bernstein. Rezler made a significant contribution by rigorously analyzing the nature and direction of various long-run and short-run factors influencing union growth, outlining the significance of “saturation effects,” classifying various factors into internal and external, direct and indirect, and secondary and primary, and putting forward a dynamic view of the union growth process. He argued that union growth factors constantly change the direction and intensity of their impact on union development.<sup>79</sup>

Recent reviewers of early and contemporary research on trade union growth believe that there now appears to be a general consensus with Dunlop that it can best be understood in the context of its total environment, and that unions grow and decline not as a result of any one factor but because a number of them work together, sometimes differently at different times.<sup>80</sup> Four groups of factors are held responsible for variations in union growth through their impact on the propensity and the opportunity to organize:

- economic stability factors including the rate of change of prices, wages or both, and changes in employment and unemployment;
- the public policy framework affecting union organization through various legislative and administrative rules and regulations;
- structural factors such as the extent of present trade union membership, and changes in the demographic and the related industrial/occupational structure of the labour force; and
- internal organizational factors such as union leadership, organizing staff, strategies and techniques.

The apparent resolution of the controversy between business-cycle theorists and institutionalists is attributed to the profound change in the method of inquiry. Whereas the early researchers were limited to description and casual observation of trends and patterns in union membership, the research in the past two decades has increasingly

favoured model building and testing, using the framework of utility maximizing behaviour, as the “preferred way to advance knowledge.”<sup>81</sup> The new analytical framework reflects the theoretical and empirical advances in tools and techniques, the popularity of the use of high-speed computers in empirical research, the growing cadre of industrial relations researchers trained in econometrics and related quantitative methods, and the availability of new and rich sources of data in this field.

### ***The A/P and B/E Models***

Among the many studies of union growth completed in the past two decades, two have had the most impact on the direction of union growth research: the 1969 analysis by Ashenfelter and Pencavel (A/P) of American trade union growth over the period 1904–60, and the 1976 monograph, *Union Growth and the Business Cycle: An Econometric Analysis*, by Bain and Elsheikh (B/E), which attempts to build a general model of union growth from studies of the aggregate pattern of change in union membership in Australia, Sweden, the United Kingdom, and the United States over several decades. Both studies use the time series methodology,<sup>82</sup> use a single behavioural relationship, and rely heavily on business-cycle factors such as the rate of increase in prices, wages, employment, or unemployment to explain union growth; they include non-economic factors such as legislation or public attitudes toward unions only incidentally. Also excluded are factors relating to structural change in the labour force (e.g., occupational/industrial shifts, male-female composition) and strategies and behaviour of unions and employers found significant in cross-sectional studies. The empirical estimates of both the A/P and B/E models, using ordinary least squares regression analysis, provide remarkable support for the hypotheses advanced and a relatively accurate and compact description of the historical growth in trade union membership in the United States and other countries. However, despite the robustness of empirical estimates and their popularity in academic research, the two models have been criticized for their simplistic analysis of “the complexity of forces that have molded the fortunes of organized labor under varying circumstances,” as well as on grounds of structural stability, variable specification or interpretation, and exclusion of some key factors affecting the historical pattern of union growth (e.g., the Wagner Act in the United States). A more fundamental question is “whether the phenomenon of union growth can be captured in a single behavioral equation without resort to ad hoc explanations,”<sup>83</sup> especially when it is recognized that “unionism has traditionally grown in sudden spurts which were never predicted by experts.”<sup>84</sup> Despite these criticisms and gloomy conclusions of some reviewers that “at present, there is no satisfactory model of union

growth,"<sup>85</sup> recent econometric modelling exercises have helped significantly in bringing clarity and precision to vague concepts and relationships.

## ***Recent Canadian Studies***

While there is evidence of an upsurge of empirical work on union growth elsewhere, especially in the United States, trade union research in Canada, until very recently, appears to be a sadly neglected area of inquiry. International studies, like the Bain-Elsheikh study, generally do not cover Canada on the ground that "Canadian business and union activity is less fundamental in the sense that much of it is transmitted from the United States."<sup>86</sup> The four recent studies on Canadian trade union growth, using econometric tools, are by Swidinsky (1974) and a critical comment on Swidinsky's analysis by Bain and Elsheikh (1976a), Abbott (1982) and Kumar and Dow (1983).

Drawing from the work of Hines and Ashenfelter-Pencavel, Swidinsky formulates an empirically testable model of union growth relating the average annual rate of change in Canadian aggregate union membership to the rate of change in employment in unionized firms, the lagged rate of price inflation, the rate of change in the number of strikes reflecting union recruiting attitudes, the rate of unemployment, lagged union density, and the rate of growth in U.S. union membership. The model is estimated using ordinary least squares regression for the period 1911-70, and is able to explain 72 percent of the variations in union growth over the sample period. Swidinsky's study has been criticized by Bain and Elsheikh (1976a) on theoretical, methodological and statistical grounds; they note that "the statistical weaknesses which characterize his model severely limit the confidence which can be placed in the results it produces."<sup>87</sup> In their comment, B/E then reestimate the model using a subset of variables included in Swidinsky's study, and find that changes in Canadian union membership can be explained by changes in U.S. membership, the current rate of change in prices and the level of unemployment.

A more comprehensive econometric study of Canadian trade union growth was conducted by Abbott (1982) using "something of a composite or hybrid model" in the sense that "its specification incorporates many of the hypotheses respecting observable determinants of union growth that are embodied in the Ashenfelter-Pencavel model, the Bain-Elsheikh model and the model proposed by Swidinsky. . . ."<sup>88</sup> Abbott also includes a number of key variables of his own. For example, he includes a policy dummy variable, which attempts to measure the effects of the passage of P.C. 1003 in 1944. He also combines this legal variable with the union density variable to test "the hypothesis that the provisions of P.C. 1003 respecting union recognition may have altered the effect of

union density on the current rate of union membership growth.” Another innovation that Abbott introduces relates to the specification of the price-inflation variable. He argues that because of “the role of unions as defensive organizations and the observed relationship between the rate of price inflation and the average relative wage advantage of unionized workers . . . the *ceteris paribus* effect of [inflation] on [union membership growth] may itself depend on the [magnitude of inflation]. Accordingly, to allow for possible nonlinearities in the effect of [inflation] on [union membership growth], both the first and second powers of [the rate of change in consumer prices] are included as regressors in the estimating equations.” Abbott’s model is able to explain over 90 percent of the variation in union growth during the period 1925–66, and contains a great number of significant variables. Abbott performs tests for several possible types of specification errors that “fail to yield any evidence of auto regressive errors, non-constant parameters or non-zero error means.” However, the investigation of the ex post forecasting performance of the model “casts considerable doubt on the post-sample predictive accuracy of the estimating equations.” Abbot’s study, while econometrically more rigorous than Swidinsky’s or Bain-Elsheikh’s work on Canada, suffers from some of the same statistical and methodological weaknesses (e.g., his method of calculating rate of change, use of faulty series on union density and employment, and use of strikes as a proxy for union militancy). As he himself points out, “limitations and shortcomings of the present study underscore the fact that much more work remains to be done before there can be any hope of reaching a consensus concerning the empirical formulation, interpretation and importance of the measurable determinants of Canadian trade union growth.”<sup>89</sup>

In a more recent study, Kumar and Dow (1983) relate trade union membership growth in Canada over the period 1935–81 to key business cycle factors, changes in the legislative framework and shifts in the demographic and industrial structure of employment. Following the analyses of Ashenfelter-Pencavel and Bain-Elsheikh, and the findings from cross-sectional studies in the United States, they specify a model in which the rate of change in aggregate union membership is dependent upon linear and non-linear changes in consumer prices, lagged employment growth, the percentage change in real wages, the change in unemployment during recessionary and recovery phases of the business cycle, the inverse of union density lagged one year, the rate of change in union membership in the United States adjusted by the ratio of international to national union membership in Canada, the legislative changes following the passage of P.C. 1003 in 1944 and the extension of collective bargaining rights to public sector employees since 1963, and changes in the ratio of employment in service and goods-producing industries and in the ratio of female and male employment. As in Abbott’s model, their

specification includes an interaction term, a product of union density and the legislative dummy variable, to test the hypothesis that the level of union density at which the saturation point is reached is dependent on the public policy environment.

The model is estimated using the ordinary least squares regression. For comparative analysis, they also test modified A/P and B/E specifications for Canada. The Kumar and Dow model explains almost 90 percent of the variation in aggregate union membership growth in Canada during the period 1935–81. All regression coefficients have the expected sign and, except for one of the unemployment change variables, are statistically significant at the 95 percent probability level, providing strong support for their proposed hypotheses. Their empirical estimation suggests that among the economic stability factors, real wage growth and lagged employment growth have the most influence on union membership; both price and wage inflation have a separate and distinct impact on union growth; and the change in unemployment during the two phases of the business cycle has an asymmetric effect on union organization — that is, while the change in unemployment during the recession has a negligible effect on union growth, the change in unemployment during the expansionary phase of the business cycle has a large and significant impact on union membership.

Kumar and Dow's study also supports the hypothesis that changes in the industry and sex composition of employment have generally had a dampening effect on union membership growth. It also appears from their analysis that over the period 1935–81 there were three legislative regimes (pre-1944, 1944–63 and 1964–81) affecting union growth. The legislative changes, according to their results, have had a dual effect: they provided a positive environment for further union organization, and they were instrumental in moderating the saturation effects associated with existing union density.

While the Kumar-Dow study is a significant advance over previous studies of union growth in Canada, it suffers from many of the weaknesses of similar econometric investigations, using a single behavioural equation and time series methodology. Some of the more specific criticisms of the Kumar-Dow study relate to their inadequate modelling of the key changes in legislation<sup>90</sup> with respect to public sector workers and construction of the unemployment variable, which does not distinguish among increases in unemployment due to employment declines, structural changes and increases in the labour force. Also, they provide a weak explanation of why they believe the changes in the ratio of female to male workers should be included as an independent variable and whether the variable reflects a trend influence, cyclical influence or some other special effect.

It is abundantly clear from this and the many other reviews of research on union growth that much still remains to be done to understand fully

union behaviour and the membership growth process. To understand better "why" and "how" unions grow, further research is required using various measures of union activity (e.g., certification and decertification of bargaining units, degree of union organization) and a more thorough analysis of both external and internal environmental factors in union growth. While there has been extensive research relating union growth to changes in the external economic, social, institutional, and legal environment, the importance of such hard-to-quantify factors as trade union leadership, the structure of labour organizations, and the adequacy of union-organizing resources and techniques have not been fully appreciated. Perhaps a clearer understanding of both external and internal environmental factors in union growth can be gained by more micro-level and interdisciplinary research: study of the behaviour and growth of individual unions; analysis of why individual workers join unions and what members expect from their unions and leaders; exploration of the profile of union behaviour in individual industry sectors; and assessment of factors in the success or failure of new organizations.

## Future Prospects for Union Growth

Following four decades of almost uninterrupted membership growth and expanded scope and coverage of collective bargaining, the trade union movement appears to be at a crossroads, facing a difficult internal and external environment. Membership of large unions, especially of internationals, has been declining over the past few years, and the pace of new organizing activity has slowed down considerably. Losses in dues-paying membership have been particularly severe in the goods-producing industries and among blue-collar workers, the traditional base of union strength, resulting in organizational and other staff cuts in many unions. There are growing indications that these losses may not be completely recouped as many of the highly organized industries face depressed domestic and international demand for their products, stiff international competition, and a new wave of technological change. The growth of public sector employment, another union stronghold, is similarly restrained by heavy government deficits and the growing pressures on governments to cut expenditures. The legal and public policy environment, which provided the major stimulus to the union growth process in the past two decades, is also becoming increasingly difficult, with growing restrictions on collective bargaining, especially in public sector and related service fields. The organization of white-collar workers in the private sector, the remaining major area of opportunity for union organization and one where unions traditionally have had difficulty in making major breakthroughs,<sup>91</sup> is facing serious obstacles from many sources. Consequently, there is a growing belief that unionism in Canada has reached a plateau. At the same time, the climate of job insecurity as a

result of persistent high rates of unemployment and poor employment recovery, the growing fears of displacement and skill obsolescence due to technological change, and the increasing worker dissatisfaction and frustration with the slowdown in promotional opportunities provide fertile ground for expanded union organization. Against this background, this section looks at the recent decline in union growth to determine whether the decline is purely cyclical or an emerging trend, reviews the areas of future union growth potential and the changing environment, and presents alternative scenarios of union growth.

## ***Recent Decline in Union Growth***

Two key interrelated indicators of what lies ahead for unions in Canada are the rate of growth of union membership and the number of new certifications granted by labour relations boards in federal and provincial jurisdictions, a measure of new union activity. Recent behaviour of both indicators suggests a marked slowdown in union growth.

According to Labour Canada's annual *Directory of Labour Organizations in Canada*, aggregate union membership in Canada fell in 1982 by nearly 55,000 or 1.5 percent. This was the first decline since 1961 and the largest, in numerical terms, in almost six decades; the last union membership decline of this size occurred in 1920–21.<sup>92</sup> A comparative analysis of the membership of international and national unions in 1982 and 1983 reveals that the gross decline was nearly three times the net decline in aggregate membership. The decline was largely concentrated in internationals, which account for nearly four out of every five union members in forestry, mining, manufacturing, and construction, the industries hardest hit by the recent recession.<sup>93</sup> Almost two-thirds of the gross decline was due to heavy losses in membership of large unions with 50,000 and more members. The two unions most affected were the United Steelworkers of America (USWA), reporting a loss of about 50,000 dues-paying members, and the United Automobile Workers (UAW), whose membership declined from 122,000 in January 1982 to 98,000 in January 1983. Other major unions experiencing large losses (of 2,000 or more members) included the United Brotherhood of Carpenters, the United Electrical, Radio and Machine Workers of America, the International Ladies' Garment Workers' Union, the International Printing and Graphic Communications Union, the Brotherhood of Railway Carmen, the United Rubber Workers of America, the International Woodworkers of America, the Metal Trades, Mines and Chemical Products Democratic Federation in Quebec, the Canadian Paperworkers Union, the Quebec-based Federation of Paper and Forest Workers, and the Quebec Government Employees' Union. Of the 203 international and national unions analyzed, 80 (48 national and 32 international) reported actual losses in membership; 74 (55 national and 19 interna-

tional) showed membership increases, and 49 (32 national and 17 international) unions had no change in membership. Among the unions reporting a decline in membership, the total loss was slightly more than 154,000 (115,000 in the internationals); nearly one-half of this loss was attributed to the USWA and UAW. At the same time, among the unions showing membership gains, the total increase was 85,000 (56,000 in nationals, of which nearly two-fifths was in three public sector unions, CUPE, NUPGE and PSAC).

The pattern of losses suggests that the union membership decline was to a large extent cyclical, related to recession-induced employment losses.<sup>94</sup> For example, the large declines in membership of the USWA and UAW can be attributed to substantial job losses in the transportation equipment and agricultural implements industries where UAW membership is concentrated, and the metal mining and primary metal industry, the major source of USWA membership. Similarly, the decline in the membership of the International Woodworkers, Paperworkers, Carpenters, and International Ladies' Garment Workers and Textile Workers can be traced to losses in employment in industries like construction, forestry, wood products, and textiles and clothing, where these unions are the major worker representatives. The reason membership losses did not occur in public sector unions was again due to the fact that the public sector was largely insulated from the recessionary declines in employment.

Although the 1982 losses appear mostly cyclical, the steady decline in industrial union membership growth since 1977, due to a gradual contraction of blue-collar jobs in forestry, metal mining and heavy manufacturing industries, indicates that these losses may also be partly structural, or a result of longer-run declines in employment growth in basic industries.<sup>95</sup> For example, the UAW membership has been declining at an average annual rate of 5 percent since 1977, following a 3.1 percent annual growth in 1966-70 and 1.4 percent annual increase in 1971-75. The loss may be attributed to the declining employment in the transportation equipment and agricultural implements industries. Similarly, the membership of the USWA has been declining since 1977 by an average 4.4 percent per year, largely due to a steady decline in blue-collar employment in the metal-mining, primary-metals, and non-metallic mineral industries. The unions in textiles and clothing have had the same experience. The marked slowdown in the growth of membership of the Carpenters, Electrical Workers, Laborers and Plasterers, and Cement Masons' International Association is also related to the depressed conditions in construction. The declining membership of unions like the Canadian Brotherhood of Railway, Transportation and General Workers is again associated with the steady decline in employment in the railway industry.

Further evidence of a slowdown in union growth is provided by the

steady decline in the number of new certifications granted by the labour boards in various federal and provincial jurisdictions. The new certifications peaked in the early 1970s at nearly 3,500 a year. The number has been declining ever since, dropping to slightly less than 3,000 per year in 1975-79. While there was a slight increase in 1980-81, largely due to a jump in certification activity in Quebec, the general trend has been downward. For example, the average number of new certifications in Ontario fell to a 20-year low of 500 in 1982, the lowest since 1961. The same trend is evident in Alberta, Saskatchewan and Manitoba and the federal jurisdiction. The only two exceptions are Quebec and British Columbia, where new certifications are still holding at a high level and account for almost one-half of the national total.

Another sign of slowdown in new union organization is available from the number of white-collar units certified in Ontario, compiled and published by the Queen's University Industrial Relations Centre in its annual volume, *The Current Industrial Relations Scene in Canada*. These figures show that not only has the total number of new white-collar bargaining units declined in the past few years, but the decline has been particularly marked in manufacturing and the retail trade, two major potential sources of future union expansion.

### ***Areas of Future Growth Potential***

The extent of union organization by industry and broad occupational group also provides some insight into future unionization potential. Over two-fifths of the non-agricultural paid workers in Canada are currently trade union members. To take a more comprehensive measure of the extent of union organization and collective bargaining activity, an estimated 58 percent of all workers in establishments of 20 or more employees are covered by collective agreements. The coverage is still higher in larger establishments, and among non-office (blue-collar) workers in most private sector industries, public service employees, nurses and technical staff in hospitals, school teachers, policemen and firemen.

By industrial sector, unions appeared to have achieved almost their full organizational potential in public administration, education and health, transportation, communications and utilities, major manufacturing and mining industry groups (e.g., rubber, paper, primary metal, transportation equipment, metal and non-metal mining), construction, and logging. However, a major proportion of office, technical and professional workers in the goods-producing industries and an overwhelming segment of employees in banking, insurance and trade are still unorganized. This white-collar work force, therefore, is the most important source of potential union organization growth. Included in this unor-

ganized pool are women, youth and part-time workers — three major labour force groups that have been difficult to organize historically; according to a recent labour force survey, only 29 percent of full-time women employees, 19 percent of youth (15–24 age group) and 15 percent of part-time jobholders were affiliated with any trade union in 1982. Among the major industries with large employment where potential exists for organizing both office and non-office workers are banks, trust companies, insurance and department stores — industries where past union organizing efforts have not produced very successful results. Other industries where union organization is on a small scale include wholesale trade, hotels employing fewer than 200 workers, motor-vehicle retailing, pharmaceuticals, printing and publishing, manufacturing of medicines and toilet preparations, office and store machinery products, women's and children's clothing, and shoes. In many of these industries, the small size of the establishment has been the major obstacle to organization.

In the white-collar and service fields, the two occupational groups offering the largest potential for future union organization are clerical and unskilled service workers (e.g., janitors, cleaners, security guards). Close to four million workers are employed in the two groups; more than a million work part-time, and over two-thirds are women. Less than one-third of full-time clerical workers and under one-eighth of those in part-time jobs are currently unionized. The extent of union affiliation is even lower among service workers, both full-time and part-time.

The extent of unionization among white-collar workers, measured by collective agreement coverage, is fairly large (between one-half and three-fourths) in coal mines, railways, telephone systems, electric power, gas and water utilities, retail food stores (primarily sales employees), education, health, and public administration. Collective bargaining coverage ranges between one-fifth and two-fifths in logging, pulp and paper, newsprint, daily newspaper publishing, shipbuilding and repair, communications and electric industrial equipment, construction, air, water and bus transportation, urban transit systems, grain elevators, and radio and television broadcasting. In the remaining industries, white-collar organization is either virtually non-existent or covers less than one-fifth of office employees.

Major obstacles to growth among white-collar union workers appear to be the small, and in some cases insignificant, gap in union and non-union wages and working conditions;<sup>96</sup> serious employer resistance; worker apathy, loyalty to employer and, in the case of some professional groups, perception of potential conflict between unionization and professional obligations; inappropriate organizing techniques and inadequate organizing of staff; and the lack of articulated union policies on issues relating to women, professionals and other special interest groups.

## *The Environment for Union Growth*

Unions in Canada face a difficult and fundamentally altered internal and external environment in the 1980s. The key factors affecting future prospects for union growth are the projected slowdown in economic growth, employment and real wage gains; persistent double-digit rates of unemployment; the aging population and labour force; the growing proportion of women, part-time workers and professionals; increasing international competition in new and traditional industries, and the rapid spread of microprocessing and related technology with potential adverse impacts on the pattern of labour demand; a shifting balance of power in collective bargaining toward management; the growing public policy restrictions on collective bargaining; and the depleted organizational and financial resources of unions.

While economic projections are being revised frequently, and vary considerably by forecasting group, there appears to be a growing consensus that over the medium term, to at least the end of the 1980s, economic growth will be slow, below potential, and significantly lower than the growth in the 1950s and 1960s. Although rates of inflation are expected to average around 5–6 percent, the unemployment rate is forecast to remain high, in the double-digit range. Similarly, while productivity growth is improving with economic recovery, the trend rate of growth is not expected to match the pre-1974 experience. Consequently, real wage growth is likely to be low, averaging about one percent per year, less than one-half of the average of the 1960s and the first half of the 1970s.<sup>97</sup>

Slow overall economic growth means that employment growth will be weak during the balance of the 1980s, and the rates of increase experienced in the past two decades may not return. Employment prospects could also be affected by a number of structural and related changes. First, the application of new microchip technology and robotics may entail labour displacement in many areas, at least in the short run. The impact of the new technology is likely to have its largest impact on offices and white-collar employment. The introduction of word-processing and data-processing electronic computers has made it possible to combine different kinds of office work (the processing and storage of data, editing, interoffice correspondence, etc.) in one operation. These integrated systems are likely to reduce overall employment requirements significantly. While making certain jobs obsolete, the new technology will also create demand for many new skills.

In the goods-producing industries, employment growth is projected to decline with the application of robotics and new, modernized capital-intensive processes and equipment. In the manufacturing sector, many basic industries, such as the auto, clothing, textiles, footwear, electric products, paper, and printing industries, are experiencing serious adjust-

ment problems due to increasing foreign competition and other economic and demographic trends. There have been massive layoffs and terminations in these industries in the past few years. Many analysts believe that no more than one-half of the employees laid off are likely to be recalled when the economic recovery takes hold, as many of these sectors are in the process of rebuilding and modernizing with large capital investment. Mining and forestry are similarly undergoing structural changes because of falling product demand and prices, and stiff international competition. Output and employment in construction have suffered greatly in the recent recession, and complete recovery is not expected until the late 1980s.

Employment growth in the public administration, health and education sectors is restrained because of pressures to cut expenditures to reduce record high budget deficits. The population growth slowdown and the projected trend toward a gradual reduction in the relative size of the government are also factors that will probably affect future public sector employment growth.

These emerging changes in the industrial and occupational structure of employment could have varying effects on union organization and growth. Heightened fears of job insecurity, resulting from poor employment growth prospects, high rates of unemployment and the projected short-run labour displacement due to technological change, and increasing worker dissatisfaction with the slowdown in promotional opportunities, could make the climate for union organization more favourable. In this scenario, union membership may expand markedly, especially among women who are likely to be more adversely affected by restrained growth and changing technology. At the same time, structural changes related to the application of new technology and modernization of capital equipment are likely to result in reduced employment for blue-collar workers, making it difficult for industrial unions fully to recoup their recent large membership losses. Union growth may also be adversely affected by the projected increase in job opportunities for white-collar professional, technical and service workers unless unions step up their organizing activity to bring these workers into the union fold.

Unions also face a new demographic environment. Canada's population and labour force are aging as the natural rate of increase in the population slows markedly.<sup>98</sup> With the downward trend in the growth of the labour force, significant changes are projected in its age-sex composition — for example, a decline in the relative share of youth, an increase in the proportion of prime-age workers in the 25–44 age group, and a possible rise in the proportions of women and part-time workers. The growing proportion of prime-age workers could then be a favourable factor for union growth. Traditionally, union organization has been strongest among prime-age workers; recent labour force survey data suggest that the extent of unionization rises with age. Moreover, the

projected increase in the prime-age group to over one-half of the labour force by mid-1990 is expected to result in intense competition for jobs and promotions, and could lead to growing dissatisfaction and frustration, creating more favourable opportunities for expanded union organization. However, a growing proportion of women and part-time workers could retard overall union growth because of weak unionization among these groups.

Future union organizing and membership growth could also be affected by changing public mood and public policy toward unions and collective bargaining. Recent public opinion polls indicate that Canadians are becoming less and less tolerant of industrial disputes, especially in the public sector and related service fields. Some jurisdictions have sought to restrict the right of public sector workers to strike; the federal government and a number of provincial governments included in their recent compensation restraint programs unprecedented restrictions on collective bargaining.<sup>99</sup> There also appears to be increasing employer resistance to union organizing activities.

Unions have a number of difficult problems related to their internal organization and structure. First, the labour movement remains divided by ideological and organizational conflicts. A recent example of these continuing schisms was the formation in 1982 of the new central federation, the Canadian Federation of Labour, by building trades unions.<sup>100</sup> The interunion conflicts still continue between a number of national and international unions, among union leaders favouring stronger political ties with the NDP and those who support the AFL-CIO-type political "neutralism," and between the public sector and private sector unions over "appropriate" representation in the CLC decision-making bodies. Second, the Canadian autonomy issue is a source of growing conflict in a number of large internationals (e.g., the UAW and USWA), with the divergence in the attitudes of the U.S. and Canadian union leaders over "concession bargaining" and other related issues. Third, as in any large organization, a feeling of isolation and discontent pervades the rank and file of many large unions. Finally, the current recession has had a devastating impact on the finances of a number of industrial unions, forcing them to reduce their professional research and organizing staff. These cuts are likely to affect the union's ability to maintain an appropriate level of services to members and to organize new bargaining units.

### ***Alternative Union Growth Scenarios***

The changing external and internal environment facing unions in the balance of the 1980s could have varying effects on union organization and growth depending on the nature and speed of adjustment of union and employer policies and practices. Union growth could be impeded if large unions like the UAW, USWA, Carpenters and International Wood-

workers are not able to recoup recent losses in their membership owing to weak economic recovery in such basic industries as forestry, mining, durable manufacturing and construction; public sector employment is reduced by severe restraints on government expenditures affecting membership of unions in this field; and new organizational activity, measured by new certifications, is hampered by inadequate organizational resources, employer resistance, worker apathy, diminished opportunities for significant economic gains for union workers, or the inability of unions to focus on key issues relating to women, part-time workers and professionals. This scenario is not altogether far-fetched in view of the serious adjustment and adaptation problems facing many key sectors of the economy, the growing pressures on governments to cut their huge deficits by reducing expenditures and downscaling the size of the public service, and the many serious internal and external obstacles facing unions in their effort to organize the unorganized.

In the alternative scenario, union growth could maintain and even increase, in the event that economic growth picks up in the second half of the 1980s with stronger, speedier recovery in basic sectors of the economy, especially those heavily unionized; there is no significant cut in public sector employment; new union organizing activity gains momentum, with some success in organization of bargaining units in industries such as trade and finance that could serve as a stimulant for further organizing; and employee dissatisfaction grows owing to such factors as job insecurity, slowdown in upward mobility, perceived inequities in the sharing of economic gains, or the effects of technological change, creating a more receptive union environment. This scenario, particularly the expanded new organization, is not unlikely in the face of growing employee morale problems as a result of "short-term survival" human resource adjustment measures in many organizations,<sup>101</sup> and because unions will be forced to step up efforts to organize white-collar workers in both established industries and new expanding high technology industries in order to survive. However, to achieve the success necessary to expand membership and protect their bargaining strength, unions will have to take appropriate measures to consolidate their organizing efforts, to develop innovative organizing techniques, approaches and policies, to improve their public image through more effective public relations and other lobbying activities, and to articulate their support of such social measures as affirmative action programs and better legislative and negotiated protection for part-time workers.

There are indications that the environment for organizing such large white-collar groups as women and professionals may be becoming more favourable. The work force adjustments during the recent recession have led to employee insecurity and dissatisfaction in many organizations. These feelings may have heightened with poor employment recovery and prospects of displacement due to technological change. The

application of new technology, especially the widespread use of word processors, is also changing the office environment. For example, the trend toward centralization of office services following the advent of integrated information systems is leading to growing dissatisfaction and alienation among employees whose work environment has become monotonous, isolated and repetitive. The new wave of technological change is also blurring occupational demarcation lines, creating a more homogeneous group environment. These emerging trends provide favourable opportunities for expanded white-collar organization if unions are unable to face the serious tasks of reorganization and reorientation to overcome the many obstacles and challenges ahead. To quote a prominent American researcher,

The transformation must be as radical as that of the Thirties, when the dominance of the old crafts, with their "aristocrats of labor" viewpoint, was swept away in the flood of industrial unionism. The old unions not only survived but in many instances grew great beyond their dreams; however, they would be unrecognizable to their founders. No matter how reluctantly, they adapted themselves to the inevitable, once it became apparent.<sup>102</sup>

## Summary and Conclusions

The Canadian trade union movement has experienced unprecedented changes in its scope, organization and structure in the past four decades. Total union membership has more than quintupled. Union density and collective bargaining coverage have almost doubled. The expanded organization has covered many new areas and sectors of the economy — public and quasi-public services, white-collar employment, women and professionals. As a result, the union movement has become truly national in scope and character, representing workers in every province and industry, and in almost all demographic groups. While the extent of union organization still lags behind that in countries such as the United Kingdom, Sweden and Australia, where over one-half to four-fifths of all wage-salary earners belong to trade unions, union coverage in Canada today is considerably larger than in the United States and Japan, and almost equal to that in West Germany.

The impressive growth of the role and significance of unionism in Canada, facilitated by a favourable economic, social and legal environment, has had far-reaching impacts on trade union structures, human resource policies and practices of employers, and on broader economic and public affairs. For example, the national unions, rather than the internationals that have been a dominant force and unique feature of the Canadian labour movement, are now a major segment, accounting for over one-half of the total union membership. There is also a growing concentration of membership in large unions and greater Canadian autonomy within the internationals. The relative status and scope of

personnel/labour relations functions in the public and private sectors have improved markedly.<sup>103</sup> Macroeconomic performance and structural adjustments have become increasingly interrelated with collective bargaining approaches and outcomes.

Following four decades of uninterrupted growth, the labour movement in Canada appears to be at a crossroads, facing difficult problems of adaptation and change in an altered internal and external environment. Slow and uncertain economic growth, increasing international competition in many basic industries including the traditional union strongholds, and the recent recession have led to declines in union membership, particularly among internationals, and a slowdown in new organizing activity. The losses are not likely to be completely recouped because of the slow speed of economic recovery and the impending structural changes in these industries related to the application of new technology and shifts in domestic and international demand. The public sector, another union stronghold, is also restrained by large government deficits and emerging economic and demographic trends. These developments, together with the shifting balance of power in collective bargaining toward management, the growing public policy restraints on collective bargaining and union organization in a number of jurisdictions, and the changing labour demand favouring women, part-time workers and white-collar employment, where union organization has been traditionally weak, have led to a growing belief that unionism in Canada has reached a plateau. It is argued that having fulfilled much of its potential among blue-collar and public sector workers, the labour movement must orient its organizing energies and resources toward the remaining large potential source of new union members — the private sector white-collar workers and industries such as banking and trade — if it is to grow and maintain its bargaining strength.

Against this background, this paper has outlined two alternative scenarios of union growth. In the first scenario, union growth could be hindered because of the weak economic recovery and the reduction in blue-collar employment in traditionally organized sectors of the economy, cuts in public service employment as pressure grows on governments to reduce their expenditures, and the lack of success in new organizing efforts. However, if these trends were to move in the opposite direction, the second scenario, union growth could be maintained with stepped-up organizing activity in the white-collar and service fields. This can only be accomplished if the labour movement makes significant adaptations in organizing techniques and approaches, in union structures, in collective bargaining responses and policies, and takes positive measures to improve its public image and articulate more effectively its support of such social measures as affirmative action programs.

Will Canadian unions meet the challenge of adaptation and change, and grow by organizing the unorganized? Or will they decline, numerically and

relative to the labour force, following the example of their American counterparts? This paper has argued that the outcome will depend on the state of the economy, the future direction of public policy governing unionism and collective bargaining, the human resource strategies and responses of management, and, to a large extent, on the policies and approaches of unions themselves. For example, if public policy is modified along the lines of recent legislative initiatives in British Columbia, making it tougher for unions to get new certifications and encouraging employers to resist unionization more aggressively, then union growth is certain to slow down and even likely to decline. Whether or not British Columbia's example will be followed remains to be seen. It needs to be emphasized, however, that it is easier to grant collective bargaining rights than to remove them. Similarly, if management follows progressive and forward-looking human resource policies, unions may find it difficult to organize the unorganized, especially in an environment of high unemployment and uncertain economic gains from unionization. At the same time, if human resource management strategies continue to be oriented toward "short-term survival," resulting in employee discontent and frustration, unionism may become attractive in sectors where union organization has been difficult owing to worker apathy, employer loyalty or a sense of professional obligations. The key determining factor, however, is union organizing policies, techniques and approaches. If unions reorient and reorganize, and there is no dramatic change in public policy and management behaviour, there is little likelihood of any marked decline in the role and significance of unionism in Canada.

## Notes

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1. See Wood (1984), and Wood and Kumar (1984, pp. 321-22).
2. Potential non-agricultural paid workers "legally eligible" to unionize include all wage and salary earners except those in agricultural, managerial, administrative and religious occupations. In most Canadian jurisdictions, these excluded workers are not legally eligible to become trade union members. For coverage and exclusions under various labour relations legislation in Canada see Wood and Kumar (1983).
3. This overall estimate of collective bargaining coverage, based on Labour Canada's annual survey, *Working Conditions in Canadian Industry*, may be high because of the bias in the survey toward larger establishments, goods-producing industries and public administration, all of which are heavily unionized (see Adams, 1984). According to Adams, on the basis of union security and check-off provisions in collective agreements, an estimated 86 percent of covered employees were union members in 1977. If Adams's estimate were used for 1983, approximately 4.14 million workers (3.56 million union members divided by 0.86) would appear to be covered by collective agreements in 1983. On the basis of this figure, economy-wide collective bargaining coverage — the proportion of workers covered by collective agreements as a percent of the non-agricultural work force potentially eligible for unionization — is roughly 52 percent, about 7-8 percent points higher than the union density figure.

Unfortunately, in the absence of a reliable data set, it is difficult to assess the extent of collective bargaining coverage more accurately. No official figure is available on the proportion of employees covered by collective agreements who are not union members. No data exist on collective bargaining coverage in small establishments with 20 employees or fewer. Even the union membership data from Labour Canada's annual *Directory of Labour Organizations in Canada* are not complete; according to Adams (1984), an estimated 100,000 union members who belong to small independent local organizations (e.g., university faculty or police associations) are not covered by the *Directory*.

4. There are two major sources of union membership data in Canada: the annual report (Part II — *Labour Unions*) under the Corporations and Labour Unions Returns Act (CALURA), and the annual *Directory* published by Labour Canada (see Kumar, 1979). The CALURA report covers all labour unions with 100 or more members, and provides information on number of unions and their locals; membership by individual unions, sex, industry, province and metropolitan areas; trusteeships; and number of collective agreements by union. The report also includes a summary of union financial statistics including dues and assessments. It does not cover labour organizations with fewer than 100 members, independent local unions, and many major teachers' and nurses' associations.

Labour Canada's *Directory* contains a listing of all national and international unions, their number of locals, membership, affiliation, and their executive officers; lists of independent local organizations reporting 50 or more members; and statistical material on aggregate membership and union density, current as well as historical. Information in the *Directory* is based on a voluntary survey of all labour organizations affiliated with a central labour congress and/or subject to collective bargaining legislation, as well as independent labour unions with 50 or more members. (Union membership by industry, province, and city/labour market area was also collected until 1977 through a separate survey.)

The major source of information on collective bargaining coverage is Labour Canada's annual survey, *Working Conditions in Canadian Industry*. The survey covers establishments with 20 or more employees, and excludes agriculture, fishing and construction. The survey coverage is, however, incomplete and biased. It does not cover establishments with fewer than 20 workers, and therefore understates coverage in trade and services. It excludes construction and teachers. The survey response rate is about 67 percent, and changes from year to year.

5. Annual report of the Minister of Supply and Services Canada under the Corporations and Labour Unions Returns Act (Part II — *Labour Unions*, 1981), Table XI, p. 33.
6. Canada, Department of Labour, *Directory of Labour Organizations in Canada*, 1983, Table 5 and pp. 16–17.
7. CALURA report for 1981, Table 38 and supplement, Table 1.
8. Ibid.
9. Statistics Canada (1983) and unpublished tabulations.
10. Calculated using union membership data from the CALURA report for 1981 and non-agricultural employee figures from Statistics Canada (1981c, December).
11. See Canada, Department of Labour, *Working Conditions in Canadian Industry* (1982).
12. CALURA report for 1981, Table 44.
13. Calculated using data from CALURA and Statistics Canada, *Employment Earnings and Hours*.
14. See Canada, Department of Labour, *Working Conditions in Canadian Industry* (1982).
15. Ibid.
16. Canada, Department of Labour, *Directory of Labour Organizations in Canada*, 1983, Table 3.
17. Ibid., Table 5.
18. Ibid., Table 3.

19. CALURA report for 1981, Table 43.
20. *Ibid.*, Table 25.
21. Canada, Department of Labour, *Directory of Labour Organizations in Canada*, 1983, Table 5. See also Chaison and Rose (1981) and Rose (1983).
22. *Ibid.*, Table 2.
23. *Ibid.*, Table 3.
24. Enumerated in the constitution of the Canadian Labour Congress (revised May 1982), Article II: "Purposes," pp. 6-8, and the "Code of Union Citizenship," pp. 38-40.
25. See Canadian Labour Congress (1982, pp. 38-46).
26. See Miller and Isbester (1971, pp. 204-39).
27. For example, in 1980, 745 locals of various unions affiliated with the CLC with a total membership of about 300,000 were also affiliated with the NDP. Leaders of a number of major unions are also executive members of the NDP federal council. See Canadian Labour Congress (1980).
28. See Miller and Isbester (1971, p. 231) and Gallup Poll Report, June 16, 1979. Since 1963, the organized labour vote for the NDP in various federal elections has ranged between 21 and 28 percent, compared to 38 to 46 percent for the Liberals and 21 to 33 percent for the Progressive Conservatives.
29. For details see Weiler (1985), Arthurs et al. (1981) and Lyon (1977).
30. See Canada, Department of Labour (1980), March (1968), and Johnston (1985).
31. See Krahn and Lowe (1984) and Kochan (1979). Krahn and Lowe find that, compared to the United States, "there appears to be a higher level of latent unionism in Canada as measured by the willingness of non-unionists to take out union membership." They hypothesize that "Canada's higher level of unionization creates a more conducive climate for workers to consider collective bargaining as a viable option" (p. 161).
32. Krahn and Lowe (1984, p. 160).
33. See Statistics Canada (1978); and Canada, Department of Labour, *Wage Rates, Salaries and Hours of Labour* (various years). For a summary analysis of union wage impact see Gunderson (1982) and Swan (1982). A more recent analysis of union wage impact is provided by Robinson and Tomes (1984), and Kumar and Stengos (1984). See also Statistics Canada (1983) for a profile of union/non-union differentials in earnings based on the 1981 Survey of Work History.
34. Wood and Kumar (1983, pp. 351-91) and Canada, Department of Labour (1982).
35. Most of these public sector employee groups (federal and provincial government employees, teachers and nurses) were organized into associations for "well being of their members or/and professions," although except in Saskatchewan, none of the employee groups had collective bargaining rights until the mid-1960s. For an historical evolution and the current state of public sector collective bargaining and unionism see Goldenberg (1979) and Rose (1983). For membership of public sector employee association groups for the period 1957-70 see Canada, Department of Labour (1976).
36. See Logan (1948, p. 77). Also, for an historical account of membership growth in Canada, see Eaton (1975), Montague (1950), and Canada, Department of Labour (1970 and 1976).
37. Total union membership jumped by about half a million between 1965 and 1969; more than one-third of this increase was due to the formation of the two federal government employees' unions (the Public Service Alliance of Canada and the Professional Institute for the Public Service of Canada) and the Quebec Government Employees' Union (Syndicat des Fonctionnaires Provinciaux du Québec). See Canada, Department of Labour, *Directory of Labour Organizations in Canada*, 1965 to 1969.
38. Rose (1983, Table 3). Total union membership grew by 1.26 million between 1971 and 1981; 62 percent of the increase was due to public sector union growth. Indeed, by 1975 almost all provincial government employees, teachers and nurses had been unionized.
39. Between 1941 and 1951 the United Auto Workers' membership more than quadrupled

from 13,561 to 60,000; the United Steelworkers' rank and file more than tripled from 15,448 to 55,000; and the Carpenters' Union membership went up from 11,166 to 38,278. See Canada, Department of Labour, *Directory of Labour Organizations in Canada*, 1941 and 1951, and Canada, Department of Labour (1970, Table 12).

40. Canada, Department of Labour (1970, Table 8 A).
41. Canada, Department of Labour, *Directory of Labour Organizations in Canada* (1941, pp. 30–33, and 1951, p. 13).
42. Canada, Department of Labour (1970, Table 7 A).
43. *Ibid.*, Table 8 A.
44. *Ibid.*, Table 8 C.
45. *Ibid.*, Table 11 A.
46. *Ibid.*, Table 12 A.
47. See note 37 and Canada, Department of Labour, *Directory of Labour Organizations in Canada* (1970, p. vii). The *Directory* stated: "In the past five years, total membership has increased by more than a third, from the 1,589,000 reported in 1965 to the 2,1973,000 at present. Not the least among the factors responsible for this increase has been the inclusion of more public service employee organizations. The propensity of public service employees in recent years to bargain collectively as a means of determining wages and working conditions, and the liberalization and extension of legislation permitting them to do so, has contributed significantly to the rapid growth in the number of organized workers. Another important factor, of course, has been the organizing activities of unions already operating in other sectors."
48. *Ibid.*, 1975, p. 9. Also see note 38 and Rose (1983).
49. See Canada, Department of Labour, *Industrial and Geographic Distribution of Union Membership in Canada*, 1964 and 1977. See also Canada, Department of Labour (1980, Table 19).
50. Canada, Department of Labour (1976, p. 53).
51. Calculated by the author from CALURA reports and estimates of teachers' and nurses' unions provided in Canada, Department of Labour, *Directory of Labour Organizations in Canada*. See also Canada, Department of Labour (1980, Table 19).
52. Rose (1983, Tables 1 and 3).
53. Rose (1983, Table 3).
54. Calculated from CALURA estimates of union membership in 1971 and 1981 and estimates of non-agricultural employees published in Statistics Canada, *Estimates of Employees* (monthly).
55. See CALURA report for 1981, Tables 13–16.
56. Anderson and Gunderson (1982), p. 157, and Canada, Department of Labour (1970, Table 9 B).
57. Wood and Kumar (1983, pp. 279–80).
58. See Rose (1983, p. 21).
59. *Ibid.*, pp. 22–23.
60. *Ibid.*, pp. 24–25. According to Rose, there is some evidence that the union shop has also been an important source of municipal union membership growth.
61. Mahoney (1965, pp. 26–28).
62. The constitution of the Canadian Labour Congress specifically states that "it shall be the responsibility of the officers, affiliates and charter bodies of this Congress to actively encourage the elimination of conflicting and duplicating organizations and jurisdictions through agreement, merger and other means" (Article II: Section 9).
63. The small size is more a characteristic feature of private sector national unions than of public sector unions and internationals. For example, in 1982, while public sector unions and internationals had an average 20,000 members, private sector union membership averaged only 7,000. See, for example, Chaison and Rose (1981) and CALURA report for 1981. The large number of small national unions may foreshadow a period of heightened merger and realignment activity as these groups strive for more effective labour organizations.

64. For a chronology of merger activity see Wood and Kumar (1983, pp. 269-78).

65. See Weiler (1985) for an evolution of the legal framework for collective bargaining since the early 20th century.

66. Although there has been no empirical research on the effects of the changes in legal requirements for union certification on union-organizing activity, administrative data on the disposition of certification applications in Ontario suggest that the success rate of union certification efforts has remained steady in the past two decades, and unions are now more successful in representation votes than before. For example, during the five-year period 1960-65, the Ontario Labour Relations Board disposed of about 4,200 applications for certifications. In 69 percent of the cases, certification was granted (in 59 percent without a vote and in 10 percent subsequent to a vote). About 12 percent of the applications were dismissed without a vote and 9 percent after the vote; the remaining applications were withdrawn. Over the five-year period 1975-80, the board dealt with 5,200 applications; 69 percent of the applicants were granted certifications, 60 percent without a vote and 9 percent subsequent to a vote. Over this period 18 percent of certification applications were dismissed, 11 percent without a vote and 7 percent after a vote.

In representation elections for certifications, the union success rate in Ontario was 52 percent in 1960-64, 56 percent in 1975-80 (60 percent in 1978-80). See Annual Reports of the Ontario Ministry of Labour and the monthly Ontario Labour Relations Board, *Reports*. For views on directions for reform see Adell (1984).

67. Clegg (1976, pp. 27-28). For an international perspective on unionism see also Smith (1981).

68. Econometric estimations of U.S. and Canadian economy growth suggest that the impact of rates of change in employment and real wages may be higher in Canada than in the United States. See Sheflin, Troy and Koeller (1981) and Kumar and Dow (1983).

69. Krahn and Lowe (1984, p. 161).

70. See Meltz (1983) and Weiler (1983).

71. Weiler (1983, p. 1819). According to Weiler, "the overall similarity between the Canadian and American industrial relations system renders the differences between the results of the two certification models especially striking."

72. *Ibid.*, p. 1817.

73. See Stern and Dennis (1981), Berenbeim (1978), Kistler (1977), Swan (1980), Farber (1983), Freeman (1983), and Dickens and Leonard (1983).

74. Comment by Thomas A. Kochan on a preliminary draft of this paper. For a discussion of the role of management policies and strategies see Kochan, McKersie and Cappelli (1984).

75. See Oswald and Krashevski (1981).

76. For a summary of this literature see Blum (1968), Perlman (1958), Fiorito and Greer (1982), and Roomkin and Juris (1982).

77. Hoxie (1936, p. 87).

78. Dunlop (1948, p. 176). Dunlop argued that the growth of labour unions over time can be analyzed by an examination of four interrelated sets of factors: technology, market structures and the character of competition, community institutions of control, and ideas and beliefs. He further distinguished between long-term trends and short-run variations around the secular trend in his study of the development of labour organizations in the United States, stating that "the evolution of social institutions does not take place at uniform rates. . . . The process is more like waves eating away at the base of a cliff, which eventually crashes into the sea" (p. 177).

79. Rezler (1961, p. 20).

80. Blum (1968, p. 48) and Block and Premark (1983, pp. 64-66).

81. Roomkin and Juris (1982, p. 311), and Block and Premark (1983, pp. 47-48). Block and Premark, for example, state that "a second conclusion in reviewing this literature is an overall impression that the principal goal of the researchers who have done time series work is to model trade union growth, rather than to explain it" (p. 47). A similar conclusion is drawn by Steping and Fiorito (1984), who complain that "there seems to

be a lack of cumulative progress in model building . . . they [modern researchers] seem too eager to embrace an attractive set of regression results based on a narrow focus."

82. When using the time series methodology, it is difficult to distinguish between a worker's decision to accept a job and his decision to join a union since "a substantial percentage of union members at any time have made no explicit choice to join their union; rather they simply took a job in a firm that was already unionized." See Block and Premark (1983, pp. 44-45).
83. Sheflin, Troy and Koeller (1981, p. 126) and Dunlop and Galenson (1978, p. 33). According to Dunlop, "any simple relationship of union growth to economic fluctuations, prices, or unemployment does not appear to be helpful in understanding the main ebbs and flows of union organization" (p. 16).
84. See Dunlop (1980, p. 400).
85. Fiorito and Greer (1982, p. 126); and Steping and Fiorito (1984).
86. Bain and Elsheikh (1976b, p. 3).
87. Bain and Elsheikh (1976a, p. 489).
88. Abbott (1982, p. 2).
89. Ibid., p. 83.
90. See Gregory and McAleer (1978).
91. A key example is the failure of the unions to make any significant inroads into organization of bank employees. This experience has been documented by Ponak and Moore (1981).
92. See Canada, Department of Labour (1970, Table 1).
93. For an analysis of the impact of the 1981-82 recession see Wood and Kumar (1983) and Canada, Department of Finance (1984).
94. During the 1981-82 recession (June 1981 to December 1982), employment losses were severe in durable manufacturing (24 percent) and construction (22 percent). For example, employment declined 27 percent in transportation equipment industry, 44 percent in agricultural implements industry, 39 percent in metal mining, 38 percent in forestry, 22 percent in construction, 31 percent in wood products, 22 percent in textiles and clothing, and 16 percent in railways. See Statistics Canada, *Employment, Earnings and Hours*, various years.
95. For an analysis of structural changes in employment see Economic Council of Canada (1984, pp. 72-82), and Magun (1984). Also see Smith (1984).
96. For evidence on differences between union and non-union wages, benefits and working conditions by broad occupational groups see Statistics Canada (1978); Canada, Department of Labour, *Wage Rates, Salaries and Hours of Labour, and Working Conditions in Canadian Industry* (various years).
97. See Economic Council of Canada (1984, pp. 1-12); Canada, Department of Finance (1984), and The Conference Board of Canada (1984).
98. See Statistics Canada (1981a).
99. See Carter and Kumar (1984), and Wood and Kumar (1984, pp. 94-96 and pp. 418-22). In addition to the restrictions on collective bargaining through compensation restraints, some governments have enacted legislation that may have adverse effects on union organizing efforts. For example, the 1984 amendments to the Labour Code of British Columbia do away with automatic certification, require a secret ballot vote on every certification application (Sec. 43), and permit an automatic decertification vote where not less than 45 percent of employees request decertification (Sec. 52(2)).
100. For background on and implications of this development see Rose (1983) and Ryan (1984).
101. See Luce (1983a and 1983b); for a recent review of human resource planning and policies see Nininger (1982) and Srinivas (1984). There appears to be a general consensus that human resource policies and practices in Canada are poor, lag behind those in the United States, and generally reflect crisis management.
102. Barkin (1961, p. 67).

103. The increasing importance of the function is reflected in the rapid growth of personnel/industrial relations professionals and their salary increases. The number of such professionals doubled between 1971 and 1981 (see Statistics Canada, 1981b). The relative salary increases for management executives in these areas have over the past 10 years outpaced the salary increases for other executives. See Sobeco Chapman Annual Report.

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# Strike Activity in Canada

R. LACROIX

The object of this paper is not to describe strike activity in Canada in detail, nor to make any systematic comparisons with other countries. That has already been done, and done well. Rather, the paper is an attempt to understand and explain the Canadian situation. Before designing a series of more or less profound changes to the institutional and legal framework governing labour-management relations in this country, it is important to identify clearly the underlying factors that explain strike activity.

The first section of this study reviews the traditional theories that attempt to explain strike activity. It also shows why and how the traditional approach is no longer acceptable and could even lead to erroneous interpretations of the Canadian situation and, as a result, to inappropriate corrective measures. This critical assessment is all the more important because the traditional approach still dominates the thinking and actions of a great many decision makers. The conclusion of the first section is devoted to a review of the most recent contributions to the explanation of strike activity in a context where information is incomplete or asymmetrical.

Using this approach, the second section of the study analyses the situation in Canada with respect to strike activity. It explains why there are differences in strike activity over time and among industries. It discusses differences among countries, as well as Canada's position among a group of industrialized countries with respect to the incidence of strikes. This section ends with an examination of regional disparities in strike activity within Canada. Finally, the concluding section examines whether it is possible or even desirable to reduce strike activity in Canada.

## Explanations of Strike Activity

This section is divided into three parts. The first part examines strike theories based on the development of bargaining power. The second part introduces the Ashenfelter-Johnson and Eaton models, which predominated in the 1970s. The third part concludes with a brief outline of the “informational” strike models.

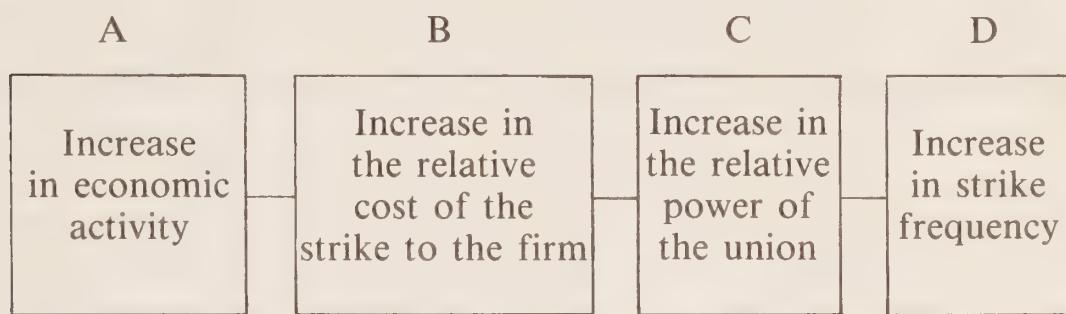
### *Strikes and Bargaining Power*

Until the end of the 1960s the theories purporting to explain strike activity rested for the most part on the notion of the power relationship between the labour union and the firm's management. In the early empirical research in this area (Hansen, 1921; Heller, 1928; Griffin, 1939), authors concentrated more on describing a correspondence between strike activity and business cycles than on formulating a theory explaining the fluctuations in strike activity. Nonetheless, they implicitly or explicitly established a link between increased strike activity and growth in general prosperity and, particularly, in profit and employment levels. They reasoned that firms were more vulnerable to strikes in periods of buoyant economic conditions because potential profit losses could be more severe during those periods, fewer strike breakers were available, and striking workers could find temporary employment more easily. Those wishing to take advantage of this greater vulnerability to obtain better working conditions would tend to use the strike as a bargaining weapon.

Until the early 1950s, researchers sought to test the relationship between business cycles and variations in strike activity more precisely, without really attempting to refine the theoretical foundations of the existing explanations (Yoder, 1940; Jurkat and Jurkat, 1949; Knowles, 1952). Rees (1952) was the first to specify and explain strike activity as resulting from changes in the bargaining power of each of the parties to the negotiations. He refined the study of the relationship of strike cycles and business cycles by using the reference cycle of the National Bureau of Economic Research. He found, on the one hand, a close correspondence between strike cycles and business cycles for the period 1915–38 and, on the other hand, a tendency for strike activity to be leading at the peak of the business cycle and lagging at the trough. He also consolidated the explanatory approach to variations in strike activity over time. This last point is important, because many authors (for example, O'Brien, 1965; Weintraub, 1966; Knight, 1972; Bean and Peel, 1976; Walsh, 1975; Kaufman, 1982) later used Rees's approach to justify their incorporation of various economic variables in the explanation of strike activity over time.

Let us first look at the general explanation; later, we shall examine the

question of the lags between the two cycles. According to Rees and the authors who followed his approach, strike activity increases with the relative power of the union. The concept of relative power, in this instance, is generally seen as a growing function of the ratio of the cost of the strike to the firm and to the union. We can then simply assume that the relative cost of the strike is a determinate function of any one of the observable macroeconomic variables, that strike activity is a determinate function of those variables. The following diagram summarizes the underlying causal relationships in this traditional approach to strike activity:



One of Rees's contributions was to explain how and why variations in the business cycle cause changes in the relative cost of strikes and how this leads to changes in the relative bargaining power of the two parties.<sup>1</sup> The major difficulty arising from this theoretical approach lies in the transition from C to D in the diagram above. Why should an increase in the union's relative power necessarily lead to an increase in strike frequency? If the employer is aware of this change in the power relationship — and there is nothing in the conceptual approach described here to imply that he is not — then his response should be to modify his wage offer in order to avoid a strike.<sup>2</sup>

As noted previously, Rees also sought to determine why there were lags between the strike cycle and the reference business cycle. He explained the fact that the peak of the strike cycle generally precedes that of the business cycle by the different expectations held by the unions and the employers. He argued that, when formulating their demands, the unions focus on such indicators as employment, past wage increases, and increases in the cost of living, whereas the employers emphasize past contracts, the volume of orders to be filled, investment plans, and so on. As the first category of indicators usually lags behind the business cycle, while the indicators used by management lead the cycle, it is at the peak that the divergences between the two sets of expectations are at their maximum and conflicts most frequent.

As for the differences in the patterns of strike and business cycles, Rees's explanation is the wait-and-see attitude of the unions before a recovery. He believes the unions want to ensure that the recovery is well under way before using strikes as an instrument of pressure. In effect,

they want to make sure that the power relationships have evolved in their favour before exploiting the situation.

This description of strikes as resulting from a divergence in the expectations of the bargaining parties could have provided an interesting avenue for research if Rees had not restricted its application to the explanation of the lags between strike and business cycles and if the divergence in expectations had not been attributable to other indicators taken into account by the two parties. In the theory developed by Rees and others who followed him, there is no mention of the possibility that the information available to both parties might be imperfect or asymmetrical to explain the divergences of expectations. They merely argue that the two parties use different indicators to establish their respective negotiating positions. How is it possible to argue that a union and an employer who have to negotiate a new contract every two or three years persist in using different indicators to assess power relationships and the firm's ability to pay? Why should the union not understand that an increase in contracts, of orders to be filled, and investment plans are better indicators of future economic activity than the past history of wages and employment?

Consequently, this explanation of strike activity caused by diverging expectations and the fact that the negotiating parties have adopted different indicators appears to be unacceptable in situations where there are recurring negotiations between the union and the employer. As will be seen later on, however, divergences in expectations resulting from imperfect or asymmetrical information form the basis for new approaches to the explanation of strike activity.

On the whole, it is evident that the explanation of strike activity based on the concept of a change in bargaining power is essentially a theory of wage determination, not a theory of strike activity. This interpretation can therefore no longer be used to explain variations in strike activity over time and among industries or nations, nor to design institutional or legal changes that might reduce strike activity.

### ***Ashenfelter-Johnson and Eaton Models***

In 1969 Ashenfelter and Johnson presented a new explanation of strike activity in an article that has become a classic on this subject. Several authors (Pencavel, 1970; Smith, 1972; Ghali, 1977; Farber, 1978) have since adopted the Ashenfelter-Johnson approach as a theoretical basis for their empirical studies of strike activity.

The Ashenfelter-Johnson model's basic premise is that there are not two but three parties involved in labour-management negotiations: the firm, the union leadership, and the union rank and file. According to this view, the union leaders seek to expand the union, but above all to secure their own position in it. Therefore, they must attempt to satisfy the

expectations of their members. However, if the rank-and-file members expect wage increases that are higher than those the employer is prepared to grant, the union leadership is faced with a dilemma. Either it must try to convince the members to lower their expectations, or, if the gap between their demands and the employer's offer is too wide, it must call a strike that will last until the members have sufficiently lowered their expectations.

Thus the strike is seen as a means of reconciling the expectations of the workers and those of the management. In some cases, the union leaders' attempts to achieve this reconciliation entail the risk of alienating the members' support. To avoid this outcome, the leadership tries to achieve reconciliation through a strike that will result in the workers reducing their wage demands — a reduction that the employer, contrary to the rank and file, had fully anticipated. In fact, the employer is perfectly aware of the union's concession curve — that is, he knows the wage rates that will be accepted by the union following strikes of various durations. In this way, he can maximize the discounted value of his future profit stream by taking this concession function into account. In doing so, he will determine an optimal strike duration.

It is immediately evident that, in this model, the probability of a strike is increased by any factor that heightens the workers' expectations to the point where their wage demands exceed the maximum the employer is prepared to pay rather than face a strike. All that is needed then to establish a relationship between the business cycle and strike activity is to link the workers' expectations to a number of macroeconomic variables.

The Ashenfelter-Johnson approach, compared with the bargaining-power model, has the enormous advantage of being logically consistent. This quality does not, however, make it more useful as a tool for understanding strike activity or for designing policies to reduce strike activity.<sup>3</sup>

The Ashenfelter-Johnson model's hypothesis about holding information is questionable, to say the least. In the model, only the employer has all the information required to make decisions concerning strikes. If the union's rank and file is on strike, it is a result of an optimal choice by the firm — a choice the union leadership has accepted. The workers are viewed as a passive element: while the firm knows their concession curve, they do not know the firm's own concession function, and therefore cannot implement any strategies. In addition, Ashenfelter and Johnson can only establish a determinate relationship between economic variables and strike activity by ignoring, except in the case of profits, the impact of these variables on the maximum wage the employer is prepared to pay to avoid a strike. Thus, in addition to profits, they introduce into the strike equation the change in real wages and the unemployment rate, and then assume these have a negative impact on strike activity.

The negative impact of unemployment on strike activity is explained by its negative effect on the expectations and wage demands of the rank and file. Ashenfelter and Johnson do not explain, however, why unemployment does not have a negative effect on the employer's expectations and thus on the maximum wage he is prepared to pay in order to avoid a strike. The impact of unemployment on strike activity thus appears to be indeterminate. Similarly, the authors affirm that workers develop expectations about the long-term increase in their real wages and that a drop in these real wages, by widening the gap between their anticipations and actual fact, increases the union's wage demands. Why could a drop in real wages not cause workers to lower their expectations concerning the increase in their real wages? If that were the case, the impact of changes in real wages on strike activity would be indeterminate.

If we can imagine a model in which the employer, knowing the workers' concession function, accordingly maximizes a profit function to find an optimum wage scale and strike duration, we can equally well imagine a model in which the union plays a similar role. That is precisely what Eaton conceived (1972). His model is in fact a counterpart of the Ashenfelter-Johnson model in that it posits that a unionized worker, in deciding whether to vote for or against calling or continuing a strike, will maximize a function of net benefit from the strike in accordance with the firm's concession functions and thus derive a wage scale and strike duration. Unlike Ashenfelter and Johnson, Eaton has not used this model to design a strike equation and a priori probabilities relating to a set of macroeconomic variables, but rather to assess empirically a strike's profitability for the workers. Generally speaking, this criticism could also apply to Eaton's theoretical model. In fact, the author was fully aware of its shortcomings:

The model is obviously incomplete, since it does not deal with the inverse relationship between union demands and strike duration. The model is mentioned here only as the missing half of the rather cynical treatment of strikes by Orley Ashenfelter and George Johnson.

### ***Information, Strike Costs and Strike Activity***

In a recent article, Hayes (1984) presents a model where the strike is viewed as the optimal strategy of a union placed in a situation of asymmetrical information. The main advantage of this model, relative to that developed by Ashenfelter and Johnson (1969), is that the union's concession function is no longer entirely arbitrary but results from a rational and maximizing behaviour on the part of the union.

In a situation where the firm has more information than the union on, for example, its own ability to pay — because the latter may depend on anticipated profits — the union could use the strike to obtain more information from the management. In effect, the union will offer com-

binations of wage scales and strike durations such that it will be in the firm's interest to accept high wage settlements when it can pay and lower wage settlements when it cannot pay. It will then implicitly reveal the information in its possession.

The union's expectations with respect to the firm's ability to pay will influence its wage demands. If there is a strong likelihood that the firm's ability to pay will be high, the union's initial wage demands will also be high, and potential strikes will last longer if the situation anticipated by the union does not materialize. Similarly, if there is an increased probability that the firm's ability to pay will be low, the union's initial wage demands will be reduced, and potential strikes will be shorter. The union's wage demands will also depend on the cost that the union will have to support during a strike. A wealthy union with a comfortable strike fund will be more disposed to make high initial wage demands. For such a union, the risk of a strike will be greater.

Hayes's model can also explain why strike activity varies procyclically over time. In periods of strong business activity, the union, realizing that general economic conditions are good, will conclude that the firm's ability to pay ought to be high. If, however, the firm with which the union is negotiating has a below-average performance, a strike could result from excessive wage demands. Furthermore, if the financial situation and strike funds of labour unions improve with the state of the economy, this will be another factor explaining the procyclical nature of strike activity. Interindustry variations in strike activity can also be explained by Hayes's model, either through interindustry disparities in the wealth of unions or through different degrees of aversion to risk on the part of labour unions.

As interesting as this model may be, it does not seem to provide a general interpretation of real situations. The asymmetry of information may not be significant enough for the union to use the strike as a means of prying more information from the firm. If the firm is listed on the stock exchange, data on its output, sales, financial situation, profits and so on are regularly published. Many other firms that are under no obligation to divulge such information do so anyway. Under those circumstances, what would motivate a firm to conceal information from its labour union during wage negotiations when it knows that it will have to reveal that information later?

If the work contract signed between the firm and the union were unique, in Hayes's assumption the firm's desire to conceal information would be understandable. That is generally not the case, however. The same union and firm renew their collective agreement every two or three years. If the union has access to the information made public by the firm and realizes that the firm has "cheated," two consequences may result: the union will demand retroactive compensation, and the trust between the union and the firm will be greatly affected. A minimum of mutual trust

is essential to the firm's performance and to its public image. Therefore, it would not be in the firm's interest to conceal deliberately and temporarily information that would be useful to the parties signing a collective agreement.

The situation is very different for many firms — often small family businesses, or foreign-owned firms — that have no legal or moral obligation to divulge their financial situation. In those cases, Hayes's model is certainly relevant since the asymmetry in information is more important and more durable. We should note, however, that even in cases where there is no asymmetrical information for the past or present situation, a significant asymmetry may exist for the future. The problem of asymmetrical information may thus prove to be a major one but, unfortunately, there are presently no empirical tests of the implications that can be drawn from Hayes's model on the intertemporal and interindustry variations in strike activity.

Three recent studies have proposed and empirically tested two other new approaches to the explanation of strike activity. Siebert and Addison (1981) and Cousineau and Lacroix (1983) have proposed and empirically verified a theory which viewed a strike as an accident occurring during the negotiation of a work contract. For their part, Reder and Neumann (1980) attempt to explain interindustry differences in strike activity by assuming that firms and workers in certain industries have a vested interest in developing a strike-proof bargaining procedure. This greater concern derives essentially from the higher costs of strikes in those industries. A synthesis of these two approaches, into a single model, will now be presented.

The basic premise of the Siebert and Addison model is that the two parties have a vested interest in bargaining. The bargaining process is actually an exchange of information on the firm's ability to pay and the union's ability to support a strike. By increasing the amount of information available to both parties, the negotiations reduce the probability of misinterpretations about each party's bargaining power and the employer's ability to pay. Yet, it is such misinterpretations that lead to strikes. That is exactly what Hicks (1957) had already realized in 1932 when he wrote: "The majority of actual strikes are doubtless the result of faulty negotiation."

If there were no time limit to the negotiations, strike probability would ultimately tend toward zero. Unfortunately, a number of factors prevent the negotiations from going on forever. First, the information required to determine the wages and other working conditions that will prevail during the life of the next collective agreement (i.e., over the next two or three years) becomes so quickly outdated that bargaining over the major points of the new contract can begin only a few months before the expiry of the current agreement.

Second, it would be difficult to carry on with the negotiations indefi-

nitely once the current collective agreement had expired. When an agreement expires, wages and other work conditions are "frozen" — that is, they do not change at the same rate as the cost of living. For the workers, therefore, there is a "waiting cost" that increases with the rate of inflation. Furthermore, uncertainty about future work conditions and the prospect of a work stoppage prevent the workers from making a number of decisions concerning consumption and investment. There is also a "time" cost associated with the duration of the negotiations after the contract expires. Finally, there are direct costs linked mainly with salaries and other expenses incurred by the union negotiators. With minor exceptions, the same factors can be used to explain why the employer also cannot afford lengthy negotiations. He incurs direct and indirect costs during the bargaining period which limit the time frame of the negotiations.

In short, both parties have a vested interest in negotiating; first, because it is an effective means of avoiding a costly strike; and, second, because it enables workers to obtain better working conditions than those the employer initially offered, and the employer signs a less onerous agreement than that initially demanded by the workers. Thus, everyone benefits by the process.

As noted above, since both parties incur costs during the negotiations, they must choose an optimal bargaining duration. The optimal duration of the negotiations will be that which equalizes the marginal benefit from bargaining and its marginal cost.<sup>4</sup> In most cases, the choice of an optimal duration implies that, by limiting the duration of the negotiations, the parties accept a strike probability that is greater than zero. This decision is similar to that of the individual who decides how long it will take to drive his car to another city. He will choose a driving speed that is determined by the value he attaches to his time. He knows that, given the distance to be covered, he is selecting a probability of accident that rises with the speed he has chosen. The accident, if it occurs, will always be the result of a miscalculation on his part or on the part of the other drivers. A strike presents an analogous situation. If it occurs, it is the result of a miscalculation during the negotiations. At the outset, the parties do not decide to strike, but they select a strike probability by choosing a bargaining duration that maximizes the net benefits to be obtained from the negotiations.

A number of factors can affect the location of the tradeoff between bargaining duration and strike probability, as well as the choice of an optimal bargaining duration. It is the variations in these factors that explain the differences in strike activity over time and among industries, countries, or regions. The tradeoff between bargaining duration and strike probability varies over time, from one industry to another (or even from one establishment to another), and from one country (or region) to another.

In any negotiation, the tradeoff may vary over time if the quality of the information required for the negotiations is not constant. Yet this is in fact what happens. The indicators on which the negotiators rely — profits, unemployment inventories, selling prices, and so on — do not always have the same forecasting value. In times of economic instability, the variations in these indicators may become so large that each of the two parties will have a completely different interpretation of the power relationships and of the employer's ability to pay. To reconcile the two interpretations will then require a longer bargaining period. In other words, for each bargaining period, the probability of a strike will be greater. As the duration of the bargaining period is not perfectly flexible — because of the costs and constraints mentioned previously — periods of economic turbulence are also periods of greater strike activity.

The tradeoff between strike probability and bargaining duration also varies from one industry to another. The extent of information required for the negotiations is greater in some industries than in others, especially in those industries which face international competition. For these industries, extensive information (information that is often difficult to process) is required on the state and prospects of foreign markets, exchange rates, foreign competitors, transportation costs, and the like, to enable the two parties to assess power relationships and the ability to pay. Other industries sensitive to changes in economic conditions are somewhat unstable. In either case, there will be a higher strike probability at the time of negotiation, since reconciliation of the interpretations is more difficult. Therefore, strike activity can be expected to be greater in industries facing international competition and in those more vulnerable to volatile economic conditions.

The cost of a strike may vary in different industries because the specific production function of some industries and/or the characteristics of their product make it easier for them to shift their production and their inventories from one period to another. The strike costs supported by both sides in those industries tend to be lower, since a strike generally causes a change in the production schedule rather than a permanent loss of output for the firm and loss of income for the workers. Under those circumstances, the optimal bargaining period chosen by the parties will be shorter and the probability of a strike will be greater.

However, in those industries where strike costs are truly high, the parties have a stake in developing negotiating protocols that will reduce strike probability for each of the bargaining durations selected (Reder and Neumann, 1980). These protocols are aimed at lessening the uncertainty that surrounds a number of aspects of the negotiations, by establishing rules of procedure, by limiting the number of negotiable elements in the wage contract, and by incorporating into the agreement certain provisions, such as indexation or reopening clauses, that will reduce the

consequences of divergent interpretations of the same economic indicators. In other words, these protocols shift the tradeoff between bargaining duration and strike probability, so that for each bargaining period the probability of a strike is reduced. Reder and Neumann conclude that, as a result, strike activity is reduced in those industries where strike costs are higher.<sup>5</sup>

It is obvious, then, that intertemporal and interindustry variations in strike activity can be explained for reasons other than greater aggressivity on the part of labour or management. The same approach, based on the inadequacy or asymmetry of information (or both), also enables us to identify factors that account for international and interregional differences in strike activity and thus better understand Canada's relative situation. The Siebert and Addison (1981) model, like that of Hayes, is not flawless. Nevertheless, we find these two models at present to be the most capable of explaining a large proportion of strikes, as well as intertemporal, interindustry and international variations in strike activity.

Our review of the literature would be incomplete if we failed to mention the theories that try to explain strikes by the idea of an investment for the future. This involves what are known as "reputation strikes," by which the union attempts to show plainly that it is an intransigent bargainer and makes the company bear this in mind when evaluating the costs incurred by breaking off negotiations. It would be difficult for a union to establish its reputation if it never put its strike threats into action. Thus, to make the threats carry force, the strike tool must sometimes be used. Though this type of strike does occur, we think that it constitutes a small proportion of total strikes. Moreover, it is hard to see how such a strike model could account for the considerable variations in strike activity from one period to another and one industry to another.

## **The Canadian Situation**

This section focusses on several aspects of strike activity in Canada. Variations through time and among industries are examined, as well as Canada's relative position in the international arena. As mentioned in the introduction, the impact of all the different factors that could explain intercountry differences in strike activity cannot be measured here. To my knowledge, only a few descriptive studies have been conducted in that area.<sup>6</sup> The discussion that follows therefore strictly analyzes the major factors which explain intercountry differences and provides examples supporting that theory. The approach used to explain intercountry differences can also be used to explain interregional differences. Therefore, interregional disparities in strike activity in Canada will be discussed after an analysis of the international situation.

Before presenting the data on strike activity in various industrialized countries, including Canada, an explanation of the different measurements of strike activity is necessary. The first part of this section will be devoted to that question.

## ***Measurement of Strike Activity***

All countries seem to accept the definition of a strike given by the International Labour Office: "A temporary stoppage of work wilfully effected by a group of workers, or by one or more employers, with a view to enforcing a demand" (Fisher, 1973, p. 56). However, most countries have their own ways of measuring strike activity,<sup>7</sup> and only the major differences will be discussed.

Table 3-1 shows the conditions that must prevail for a strike to be counted as such in the 11 countries selected for this study. In four countries (the United States, Italy, the Netherlands and Sweden) these conditions are clearly less restrictive than in Canada. In all other cases it is difficult to make a judgment on this issue, because of the multiplicity of prevailing conditions in each country or of the sectors that are excluded.<sup>8</sup>

Because different criteria are used to define a strike in various countries, the number of strikes becomes a precarious indicator of intercountry differences in strike activity. These criteria, however, do not affect the other two indicators, the person-days lost and the number of workers involved. To the extent that the criteria have not changed over time, the strike indicators can indeed reflect the evolution of strike activity in the various countries. In some countries, "political" strikes are excluded; in others, strikes in the public and quasi-public sectors are not counted.<sup>9</sup> The treatment of rotating strikes also differs from country to country. In some cases, each individual work stoppage in a rotating strike is considered a strike; in other cases, all the work stoppages that form part of a rotating strike are counted as a single strike. Finally, as far as the number of workers involved in work stoppages is concerned, some countries count only those who are actually striking, while others also count workers indirectly affected by the strikes.

From these disparities, Shalev (1980, p. 124), after an exhaustive study of how strike activity is measured in eleven countries, concludes that absolute figures for numbers of strikes must be viewed with caution, although comparative developments over time are generally not distorted by the national peculiarities of operational definitions of a strike. In the same vein, Fisher (1973, p. 98), after examining the situation in the major OECD countries, invited researchers to exercise greater caution in interpreting international data on strike activity.

The issue of the differences in strike potential constitutes another aspect of the use of the existing data on strike activity to make com-

**TABLE 3-1 Strike Statistics in Various Countries**

Country	Criteria
Belgium	One day or more
Denmark	100 days lost or more
France	No restriction; public sector workers are excluded
West Germany	One day or more involving six workers or more; or 100 person-days lost
Italy	No restriction
Netherlands	No restriction
Norway	One day or more
Sweden	One hour
United Kingdom	10 workers and one day; or 100 person-days lost
United States	6 workers or more, or one day, or one shift
Canada	More than one half-day and 100 person-days lost or more

Source: Kenneth Walsh, *Strikes in Europe and the United States* (London: Francis Pinter, 1983); S.W. Creigh, N.M.A. Donalson, and E. Hawthorn, "Differences in Strike Activity Between Countries," *International Journal of Manpower* 3 (4) (1982): 15-23.

parisons over time and among countries or industries. Strikes occur, for all practical purposes, only in the unionized sector of the economy. Consequently, differences in unionization rates may well lead to a greater strike potential in some countries, industries, or time periods — and, all things being equal, to a different type of strike activity as well.

Furthermore, strikes occur mainly at the time wage contracts are being renegotiated. Yet, other things being equal, strike activity at any given time or in any given region or industry will depend on the number and importance of the collective agreements that reach their expiration date (Cousineau and Lacroix, 1976; Kelly, 1976).<sup>10</sup> Ideally, then, the data used in comparisons of strike activity among time periods, countries (or regions) or industries should include strike rates (i.e., the number of wage contracts signed after a strike during a given time period, as a proportion of all wage contracts signed during that period), a striker index (i.e., the number of workers involved in strikes during a given time period, as a proportion of all workers covered by wage contracts signed during the same period), and a time-lost index (i.e., the number of person-days lost in work stoppages during a given time period, as a proportion of the number of person-days that could have been lost by workers who signed wage contracts during the same period). Often, some of the data necessary to determine these indices of strike activity are not available, thus restricting the scope of the comparisons that can be made.

The correct measurement of strike activity depends on what we intend to measure and on the ultimate use of the data. If we want to assess the total cost of strikes in an economy, adjusting for union density is not required, and an indicator such as the number of person-days lost will be

adequate. If, however, the goal is to understand the causes of strikes and to make comparisons over time or among industries or countries, then adjusting for union density becomes necessary, and the number of negotiations that are being conducted at a given point in time becomes important.

Strikes do not only occur during the renegotiation of a wage contract but do, in fact, also occur during the life of a collective agreement. In 1981, for example, this type of strike accounted for 16.5 percent of all strikes and for 20 percent of the workers involved in strikes, but for only 2.3 percent of total person-days lost. Consequently, this type of strike may be considered important or unimportant, depending on the strike indicator selected. Economic models of strikes, however, only attempt to explain strikes that occur during the negotiation of a wage contract. To that extent, any study that uses existing models to explain intertemporal, interindustry or international strike activity should be limited to the data on work stoppages that occur during the negotiation of a wage contract. Unfortunately, in comparisons among countries, it is not always possible to distinguish among strikes on the basis of their cause. The problem may be lessened to some extent if the economic factors that explain strikes which occur during the negotiation of a collective agreement also have the same influence on work stoppages which occur during the life of wage contracts. This does, in fact, seem to be the case (Fisher and Percy, 1983). Keeping this reservation in mind, the data available on strike activity can now be analyzed.

## *Intertemporal and Interindustry Differences in Strike Activity in Canada*

### INTERTEMPORAL VARIATIONS

As Table 3-2 shows, strike activity in Canada varies considerably over time whatever the indicator used. Whether we use the number of strikes, their average duration, or the volume of strike activity, the variations between two successive years are always important.

The considerable increase in the number of strikes observed over the years could, of course, result from a gradual deterioration in labour-management relations, but before reaching that conclusion on assessment of how strike potential has changed over time should be made. If union density has increased noticeably during a given time period and if the duration of work contracts has shortened during that same period, the increase in strike activity could be due to these factors rather than to a deterioration in labour-management relations.

Table 3-8 shows that union density rose by some 18 percent between 1960 and 1980. However, the duration of collective agreements has

TABLE 3-2 Selected Measures of Strike Activity in Canada, 1960-81

Year	Number <sup>a</sup>	Average Size <sup>b</sup>	Average Duration <sup>c</sup>	Person-days Lost <sup>d</sup>	Volume	
					As a Percentage of Time Worked	
1960	274	180	15.0	738,700	0.06	
1961	287	341	13.6	1,335,080	0.11	
1962	311	239	19.1	1,417,900	0.11	
1963	332	251	11.0	917,140	0.07	
1964	343	293	15.7	1,580,550	0.11	
1965	501	343	13.7	2,349,270	0.17	
1966	617	667	12.6	5,178,170	0.34	
1967	522	483	15.8	3,974,760	0.25	
1968	582	384	22.7	5,082,732	0.32	
1969	595	516	25.3	7,751,880	0.46	
1970	542	483	25.0	6,539,760	0.39	
1971	569	421	12.0	2,866,590	0.16	
1972	598	1,181	11.0	7,753,530	0.43	
1973	724	481	16.6	5,776,080	0.30	
1974	1,218	477	15.9	9,221,890	0.46	
1975	1,171	432	21.5	10,908,810	0.53	
1976	1,039	1,512	7.4	11,609,890	0.55	
1977	803	271	15.2	3,307,880	0.15	
1978	1,058	380	18.4	7,392,820	0.34	
1979	1,050	440	16.9	7,834,230	0.34	
1980	1,028	429	20.3	8,975,390	0.38	
1981	1,048	323	26.2	8,878,490	0.37	

Source: John Anderson and Morley Gunderson, eds., *Union-Management Relations in Canada* (Toronto: Addison-Wesley, 1982), p. 223, Table 1.

- a. Number of strikes occurring each year, regardless of whether they began during that year.
- b. Number of workers involved in strikes, divided by the number of strikes.
- c. Number of person-days lost during strikes, divided by the number of striking workers.
- d. Number of strikes  $\times$  size  $\times$  duration.

declined substantially since the early 1970s, thus increasing the number of contracts that are being renegotiated at any point in time. For example, while only 17 percent of contracts, on average, had a duration ranging between one and seventeen months during the period 1967-72, that figure rose to 44 percent during the period 1973-78. At the same time, the proportion of contracts with an 18- to 29-month duration declined from 52 to 41 percent, while that of contracts lasting 30 months or more dropped from 31 to 15 percent.<sup>11</sup>

It is necessary to examine the situation in greater detail before concluding that the climate of labour relations has deteriorated seriously since the 1960s in Canada. Indeed, more precise data on strike rates, drawn from the databank on collective agreements covering 200 employees or more, suggest that caution is warranted (Table 3-3).

TABLE 3-3 Strike Activity during Negotiation of Large Collective Agreements, Canada, 1967-81

Year	All Collective Agreements			Public Sector		
	Strike Rate	% of Workers on Strike	Strike Rate	% of Workers on Strike <sup>a</sup>	Strike Rate	% of Workers on Strike <sup>a</sup>
1967	19.6	27.6	19.6	27.6	—	—
1968	21.9	27.1	22.1	29.3	0.0	0.0
1969	13.8	17.3	15.8	24.0	1.1	0.2
1970	14.1	17.5	16.0	19.6	1.5	1.7
1971	16.3	22.0	23.8	28.3	2.8	3.5
Average	17.1	22.3	19.5	25.8	1.4	1.4
1972	11.4	29.3	16.1	19.8	7.2	38.7
1973	12.6	17.9	19.4	26.4	3.4	5.4
1974	9.6	12.7	20.3	21.9	0.3	0.4
1975	11.6	15.8	17.3	24.5	7.5	7.1
1976	12.3	9.0	21.6	19.5	3.2	1.1
Average	11.5	16.9	18.9	22.4	4.3	10.5
1977	3.4	3.6	7.9	8.0	0.4	0.3
1978	4.3	6.2	8.7	10.0	0.8	2.3
1979	7.9	11.0	13.7	18.7	3.2	1.7
1980	10.1	21.1	13.4	11.6	7.7	26.4
1981	12.2	18.8	24.9	34.5	3.6	4.0
Average	7.6	12.1	13.7	16.6	3.1	6.9

Source: Calculated by the author from the Labour Canada data base on collective agreements applying to 200 workers and more. Note that these figures cover all agreements applying to 500 workers and a high proportion of those applying to 200 and more workers. The construction sector is not included.

a. Number of union members ratifying labour contracts after a strike, as a percentage of the total number of unionized workers ratifying a contract during the year.

**TABLE 3-4 Number of Large Collective Agreements Signed in the Public and Private Sectors in Canada, 1967-81**

Year	Private Sector			Public Sector <sup>a</sup>		
	Total	Without Strike	With Strike	Total	Without Strike	With Strike
1967	332	267	65	—	—	—
1968	606	472	134	7	7	0
1969	590	497	93	92	91	1
1970	907	762	145	135	133	2
1971	735	598	187	436	424	12
1972	317	266	51	348	323	25
1973	422	340	82	342	313	11
1974	345	275	70	396	395	1
1975	353	292	61	505	467	38
1976	546	428	118	559	541	18
1977	457	421	36	686	683	1
1978	600	548	52	772	766	6
1979	446	385	61	559	541	18
1980	380	329	51	517	477	40
1981	413	310	103	610	588	22

*Source:* Calculated by the author from the Labour Canada data base.

a. The public sector is limited to the federal, provincial and municipal governments and the education, health and welfare sectors.

The strike rate in these large collective agreements as a whole diminished considerably between 1967 and 1981. When that period is subdivided into five-year subperiods, the average strike rate was 17.1 percent for the first five years, 11.5 percent for the subsequent five years, and 7.6 percent for the period 1977-81.

This considerable reduction in strike rates is attributable in part to the growing significance of collective agreements in the public and quasi-public sectors, relative to the total number of agreements. Table 3-4 shows that the number of large collective agreements in the public and quasi-public sectors has risen steadily and since 1974 has exceeded the number of such agreements in the private sector.

Since the strike propensity of workers in the public and quasi-public sectors is much lower than that of private sector workers, the growing relative importance of those sectors automatically lowers the overall strike rate. The growing importance of the public sector does not, however, totally explain the decline in the strike rate. Table 3-4 also shows that the strike rate in the private sector diminished significantly during the same period, from an average of 16.8 percent for the subperiod 1967-71, to 13.7 percent during 1977-81. Thus, if we used only the strike rate associated with large collective agreements as the sole indicator of the development of labour relations in Canada, we would have to conclude that the situation has improved considerably since 1967. In order to explore this issue in greater detail and to determine the impact of

**TABLE 3-5 Number of Strikes in the Private and Public Sectors, 1962-81**

Year	Public Sector		Private Sector	
	Average Number	Total (percent)	Average Number	Total (percent)
1962-65	9	2.4	362	97.6
1966-69	33	5.7	546	94.3
1970-73	54	8.9	554	91.1
1974-77	154	14.6	902	85.4
1978-81	186	17.8	859	82.2

*Source:* Canada, Department of Labour, *Strikes and Lockouts*, relevant years.

*Note:* The public sector includes public administrations and education, health and welfare services. This is a more restrictive definition than that adopted by Labour Canada in providing figures for the public and private sectors.

**TABLE 3-6 Number of Person-days Lost in the Public and Private Sectors, 1962-81**

Year	Public Sector		Private Sector	
	Average Number	Total (percent)	Average Number	Total (percent)
1962-65	17,882	1.1	1,548,482	98.9
1966-69	342,850	6.2	5,154,035	93.8
1970-73	765,265	16.1	3,974,940	83.9
1974-77	741,572	8.8	7,646,120	91.2
1978-81	1,373,260	19.9	6,883,290	80.1

*Source:* Canada, Department of Labour, *Strikes and Lockouts*, relevant years.

*Note:* The public sector includes public administrations and education, health and welfare services. This is a more restrictive definition than that adopted by Labour Canada in providing figures for the public and private sectors.

the unionization of the public and quasi-public sectors on the different indicators of strike activity in Canada, the data on all strikes in the public and private sectors have been examined for the period 1962-81.

Table 3-5 shows the average annual number of strikes during five subperiods between 1962 and 1981. The growing importance of strikes in the public sector, relative to the total number of strikes, can be observed. That proportion rose from 2.4 percent in 1962-65 to 17.8 percent in 1978-81. Nonetheless, the increase in the number of public sector strikes does not, solely, explain the increase in the total number of strikes. In fact, the average annual number of private sector strikes increased considerably between 1962-65 and 1978-81. If there had been no strike in the public sector during that period, the average annual number of strikes would have increased by 137 percent between the two sub-periods. Public sector strikes result in that percentage rising to 182 percent over the same period. Table 3-6, showing the number of person-days lost in public and private sector strikes, confirms that the unioniza-

TABLE 3-7 Person-days Lost per Unionized Worker, Canada, 1955-81

Year	Total	Private Sector <sup>a</sup>
1955	1.48	
1956	0.92	
1957	1.06	
1958	1.94	
1959	1.53	
1960	0.50	
1961	0.92	0.92
1962	0.98	0.98
1963	0.63	0.62
1964	1.06	1.04
1965	1.48	1.47
1966	2.98	2.59
1967	2.06	1.82
1968	2.52	2.49
1969	3.73	3.68
1970	3.01	2.91
1971	1.28	1.16
1972	3.25	2.27
1973	2.23	2.13
1974	3.37	3.26
1975	3.78	3.42
1976	3.81	2.92
1977	1.05	0.93
1978	2.25	2.06
1979	2.37	1.96
1980	2.64	1.93
1981	2.55	2.22

Source: Calculated from Canada, Department of Labour, *Strikes and Lockouts*, and *Directory of Labour Organizations in Canada*, relevant years.

a. Person-days lost in the private sector are divided by the total number of unionized workers. The private sector could only be isolated from 1961 on.

tion of the public sector is not enough to explain fully the increase in strike activity in Canada since the early 1960s.

In order to determine whether the increase in strike activity in Canada has been caused mainly by an increase in union density, person-days lost per unionized workers have been calculated for the period 1955-81 (Table 3-7). This indicator reveals a significant deterioration, with the major break apparently occurring in the mid-1960s. In addition, if we look at the ratio of person-days lost in the private sector to all unionized workers, we notice that the observed deterioration is only partly attributable to the unionization of the public sector.

How can this strong growth in strike activity over the decade 1966-76 and the years following be explained? As Table 3-8 reveals, the period was characterized by a strong and sustained tendency toward unionization. While the number of unionized workers had grown by 25.3 percent in the period 1955-65, it rose by 75.2 percent in the following decade

TABLE 3-8 Manpower and Unionization in Canada, 1955-81

Year	Union Membership (000s)	Paid Non-Farm Workers (000s)	Percent of Non- Farm Workers Unionized
1955	1,268	3,767	33.7
1956	1,352	4,058	33.3
1957	1,386	4,282	37.4
1958	1,454	4,250	34.2
1959	1,459	4,375	33.3
1960	1,459	4,522	32.3
1961	1,447	4,578	31.6
1962	1,423	4,705	30.2
1963	1,449	4,867	29.8
1964	1,493	5,074	29.4
1965	1,689	5,343	29.7
1966	1,736	5,658	30.7
1967	1,921	5,953	32.3
1968	2,010	6,068	33.1
1969	2,075	6,380	32.3
1970	2,173	6,465	33.6
1971	2,231	6,637	33.6
1972	2,388	6,893	34.6
1973	2,591	7,181	36.1
1974	2,732	7,637	35.8
1975	2,884	7,817	36.9
1976	3,042	8,158	37.3
1977	3,149	8,243	38.2
1978	3,278	8,413	39.0
1979	—	—	—
1980	3,397	9,027	37.6
1981	3,487	9,330	37.4

Source: Labour Canada, *Directory of Labour Organizations in Canada*, 1984.

(1966-76). On average, during the first period, union density diminished, since the number of paid workers increased by 41.8 percent. While the growth in the paid labour force over the latter period was relatively similar (44.2 percent), union density increased strongly. This greater union density was not attributable only to the unionization of the public sector but also to the increase in the number of unionized workers in the private sector (Labour Canada, 1983, p. 17).

During this period, there was a marked increase in the number of unionized workers in the private sector and a significant change in their industrial distribution. Sectors with a traditionally high unionization rate remained stable or experienced a decline, whereas unionization made inroads or increased in some new sectors, such as certain high-technology manufacturing industries, services, trade, finance, transportation, communications, public utilities, and so on.

In summary, the decade 1966-76 was marked by the entry of many

new participants into the labour relations and collective bargaining arena. These new participants were less familiar with the existing power relationships and less informed about employers' ability to pay, and were more apt to make miscalculations leading to strikes. Concurrently, because they wanted to demonstrate their firmness and establish their reputation, they were undoubtedly responsible for a number of "prestige strikes." Another key factor was the large number of young people entering the labour market from the mid-1960s on. Not only did they augment the labour force, they also added to the ranks of unionized workers and probably altered the concession function of a large number of union locals. These changes in power relationships, which were not always clearly perceived by employers, no doubt contributed to the increase in strike activity in Canada.

Moreover, the period after 1966 was marked by major economic changes (the two oil shocks, for example) and an exceptional volatility in raw materials prices that caused a considerable mix-up in the information generally used in wage contract negotiations. This deterioration in the quality of information undoubtedly played a role in the decline of the indicators of strike activity in Canada: first, because it increased the probability of miscalculations in the assessment of power relationships and of employers' ability to pay, and, second, because this uncertainty led, as we have already seen, to a significant reduction in the average duration of work contracts and thus to an increase in the average number of contracts being renegotiated at any point in time.

While it would be difficult, within the scope of this paper, to determine the influence of the different factors on the growth of strike activity in Canada since the early 1960s, I am inclined to think that they all played an important role and that their effects were mutually reinforcing. If we look only at short-term variations, Table 3-3 shows that both strike activity and the strike rate varied in the short run. In other words, variations in strike activity cannot be explained totally by variations in the number of contracts negotiated between two periods. The variations in the strike rate suggest that there are other factors which explain the variations in strike activity over time. We shall come back to these factors and their respective importance in Canada after discussing some of the data on interindustry differences in strike activity.

## INTERINDUSTRY VARIATIONS

Strike activity varies considerably among industrial sectors, as the data in Table 3-9 show. Relative to other industries, mining, construction, and manufacturing are strike-intensive industries. Obviously, these interindustry variations are not unrelated to the strike potential, or union density, in each industry. Compared with the trade and service industries, for example, manufacturing, mining, and construction are highly

**TABLE 3-9 Days Lost per Employee in Work Stoppages in Certain Industrial Sectors, Canada, 1966-79**

Sector	Days Lost per Employee		
	1966-70	1971-75	1976-79
Forestry	0.289	1.194	0.797
Mining	4.261	3.593	6.140
Manufacturing	1.505	1.795	1.497
Construction	2.074	2.089	2.145
Transportation, etc.	0.938	1.305	0.982
Commerce	0.100	0.109	0.130
Services	0.112	0.263	0.282
Public Administration	0.140	0.510	0.370

*Sources:* Columns 1 and 2 from L. Loewen and J. Stewart, *Canadian Industrial Relations Perspective: Indicators, Descriptive Statistics* (Ottawa: Labour Canada, 1980), p. 15, Table 5; column 3 from John Anderson and Morley Gunderson, eds., *Union-Management Relations in Canada* (Toronto: Addison-Wesley, 1982), p. 227, Table 3.

unionized. Higher union density implies a larger number of collective agreements, and greater strike activity can therefore be expected in these industries.

The data on collective agreements covering 200 or more employees reveal that strike rates, in addition to strike activity, are higher in certain industries. Tables 3-10 and 3-11 show average strike rates for major industrial sectors and major manufacturing industries, respectively, for the period 1968-81. It can be seen, for example, that the strike rate was only 9.5 percent in the private service sector but as high as 29.4 percent in the mining sector. Within manufacturing, strike rates ranged from a low of 3.3 percent (tobacco) to a high of 39.4 percent (transportation equipment). Thus, the variation around the mean (20.9 percent) was very large. There must therefore be industry-specific characteristics that explain these interindustry differences in strike rates.

**TABLE 3-10 Average Strike Rates in Major Industrial Sectors, Canada, 1968-81**

Sector	Collective Agreements Signed after a Strike as a Percent of Total Collective Agreements Signed
Forestry	6.4
Mining	29.4
Manufacturing	20.9
Transportation, etc.	9.6
Private Services	9.5

*Sources:* Calculated by the author from the Labour Canada data base.

**TABLE 3-11 Average Strike Rates in the Manufacturing Industry, Canada, 1968-81**

Industrial Sector	Collective Agreements Signed after a Strike as a Percent of Total Collective Agreements Signed
Food and Drink	10.2
Tobacco	3.3
Rubber and Plastics	21.0
Leather	14.3
Textiles	9.0
Hosiery	0.0
Clothing	4.4
Wood	24.2
Furniture	35.7
Paper	28.6
Printing and Publishing	8.7
Primary Metals	22.1
Metal Products	20.5
Machinery	23.4
Transportation Equipment	39.4
Electrical Products	19.6
Non-Metallic Minerals	21.8
Oil and Coal	20.0
Chemicals	20.7
Miscellaneous Manufacturing	13.2
Total Manufacturing	20.9

*Source:* Compiled by the author from the Labour Canada data base on collective agreements applying to 200 or more employees.

### *Studies of Strike Activity*

As Lacroix and Dussault (1979) confirmed, until quite recently the various theoretical models of strike activity all led to the same strike equation, with justifications dependent on the particular underlying theoretical model adapted. Stated in its broadest form, this equation runs as follows:

$$\begin{aligned}
 \text{Strike activity of group } i &= a_0 + a_1 \text{ (economic activity)} \\
 &+ a_2 \text{ (inflation)} + a_3 \text{ (variation in nominal wages } i) \\
 &+ a_4 \text{ (variation in real wages } i) + a_5 \text{ (level or variation of profit or of} \\
 &\text{productivity)} \\
 a_2 &= a_3 = 0 \text{ when } a_4 \neq 0.
 \end{aligned}$$

Depending on the study, strike activity might be defined either in terms of the number of strikes, length of strikes or number of person-days lost through strikes. The measurement most commonly used is the number of strikes. Few researchers give reasons for choosing a particular measurement of strike activity, as if all were interchangeable. Those who reject the number of strikes in favour of a more artificial

measurement of the strike phenomenon generally claim that if the number of strikes is isolated from their average duration and extent, it does not give an accurate picture of the cost and impact of strike activity (Bean and Peel, 1974; Vanderkamp, 1970; and Farber, 1978). If a researcher wishes to explain the parties' behaviour, he would do well to divide the measurement into these areas, so that he can determine whether a particular dimension of a strike is dependent on a decision by the parties. The few studies that have used more than one measurement of strike activity reveal marked differences not only in sensitivity to independent variables but also in the percentage of their variance (Walsh, 1975; Skeels, 1974; and Cousineau and Lacroix, 1976). Nonetheless, the number of strikes, considered a decisive variable by all researchers, remains the most explicable variable.

In the majority of studies<sup>12</sup> (Canadian, American or British) of composite data in chronological series, economic activity (measured by the unemployment rate, growth of the GNP, deviation of the GNP from a trend and so forth) is found to have a positive effect on the number of strikes. The relation between economic activity and strike activity is much less stable from one study to another when indicators other than the number of strikes are taken as independent variables. Inflation, when taken as a independent variable, however, usually has a positive and significant effect on strikes.

Every other explanatory variable (nominal wages, real wages, relative wages, profit and productivity, and so forth) shows effects that are highly unstable from one study to the next. Thus, out of the ten studies we examined which deal with the effect of nominal wages on strike activity, five report a negative effect, three a positive effect, and two insignificant results. Similarly, of eight studies that include real wages as a variable accounting for strike activity, five conclude with negative results and three with positive. The same type of fluctuations are found with profits and productivity.<sup>13</sup>

Two recent Canadian studies using microdata to try to estimate the effect of economic or other variables on the probability of strikes yield more qualified findings as to the impact of the economic variables traditionally used in strike equations. Dussault and Lacroix (1980) studied the effect of the economic factors traditionally associated with strike probability by analyzing 1,552 collective agreements signed in the private sector of the Canadian economy between 1964 and 1975. For the private sector as a whole, they conclude that the variable selected to reflect economic activity performs as expected, in addition to being statistically significant. The same variable does not yield such clear results in the private sector subsectors since it is statistically significant, with the highest Student's *t* being only 1.76 for the manufacturing sector. After seeking to explain the settlement stage of 1,641 collective agreements signed in the manufacturing sector between 1967 and 1975,

Swidinsky and Vanderkamp (1982) did not link any consistent effects to economic variables.

By relying on the new theoretical approach described in the section on information and strike activity, Cousineau and Lacroix (1983) specified and estimated a strike equation for Canada that attempted to explain the intemporal and interindustry variations in strike activity. According to this model, variations in intemporal strike activity are essentially a result of changes in the quality of the information on economic indicators used by the parties to assess bargaining power, the employer's ability to pay, and the union's ability to endure a strike. In addition, the authors hypothesized that strike activity depends on changes in the costs of bargaining and on the implementation of wage controls. They assumed that the negotiating parties generally used three indicators: the capacity-utilization rate, the selling-price index, and the job-vacancy rate. To assess the quality of the information provided by these indicators at various points in time, their coefficients of variation were used as explanatory variables of strike probability. As far as the costs of bargaining are concerned, the model links them, in part, to the rate of inflation at the time of negotiation. This variable is used as an explanatory variable of strike probability. Finally, the strike equation includes a dichotomic variable identifying the collective agreements signed during the period of wage controls in Canada.

In this conceptual approach, interindustry variations in strike activity are caused by two sets of factors: those which affect the quantity and/or the diffusion of information needed by the negotiators, and those which affect the costs of a strike to the two parties. The first set includes variables such as the exposed or non-exposed nature of the industry, the number of workers in the bargaining unit, and the duration of the preceding work contract. The second set includes the coefficient of variation of the inventory/sales ratio and the degree of concentration of sellers and purchasers.

A strike equation in which strike probability is a function of all the variables mentioned above was estimated, using data associated with all of the collective agreements signed in the Canadian manufacturing sector between 1964 and 1981. With one exception (the variation coefficient of the inventory/sales ratio), the coefficients of all the explanatory variables showed the expected sign and were statistically significant. To have an idea of the impact of the variables, the authors estimated the variation in strike probability resulting from the movement of the average value of each variable to the highest value it assumed during the sample period.

Let us first take a look at the results for the variables explaining the variations in strike activity over time. The variation coefficients of the capacity-use rate and the selling-price index are the factors that have the most significant impact on strike activity. For example, by replacing the

average value of the variation coefficient of the capacity-use rate with its highest value, strike probability rises by some 23 percentage points. A similar calculation for the selling-price index produces a 19-point change in strike probability. The impact of the variation coefficient on the job-vacancy index is less significant, since the substitution exercise produces a change of only 9 percentage points. Substituting a rate of inflation of 12.7 percent for a rate of 8.7 percent at the time of the negotiations adds 10 points to strike probability. Finally, the wage controls in effect during the period 1975–78 lower strike probability by about 4 percentage points.

Thus it can be seen that the change in strike probability over time can be explained by the uncertainty surrounding power relationships and the employer's ability to pay, by the rate of inflation at the time of the negotiations, and by the presence of income policies. Economic variables that did not seem to play a significant role in explaining strike activity when individual data were used are very important in this new approach.

The results are equally encouraging for interindustry differences. For example, strike probability is reduced by about 11 percentage points if the industry is protected against foreign competition. If the agreement preceding the work contract under negotiation had a duration of 36 months rather than 12 months, the probability of strike increases by 10 percentage points. Furthermore, if the bargaining unit has 10,000 members instead of 200, strike probability rises by 12 points. Finally, when the highest degree of concentration of sellers and purchasers is substituted for the average value, strike probability increases by 7 percentage points.

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Thus we have some of the elements enabling us to answer the question why strike activity varies from one industry to another. There are interin-

**TABLE 3-12 Number of Strikes per Thousand Workers,  
Various Countries, 1970-81**

Country	1970-75	1976-81	1970-81
Belgium	52.5	56 <sup>a</sup>	54.1 <sup>b</sup>
Denmark	45.5	87.8	66.6
France	174.9	146.7	160.8
West Germany	—	—	—
Italy	237.9	123.4	180.6
Netherlands	6.2	6.3	6.2
Norway	9.1	11.3	10.9
Sweden	19.4	27.7	23.3
United Kingdom	114.1	81.6	97.8
United States	65.0	46.8	55.9
Canada	93.2	98.8	96.1
Canada's Rank	7/10	8/10	7/10

Source: *International Labour Office Statistical Yearbook*, relevant years.

a. 1976-80.

b. 1970-80.

dustry disparities in strike activity because not all industries are exposed to international competition, the degree of concentration differs from industry to industry, some industries have large plants, and so on.

### *Strike Activity in Canada: An International Perspective*

International data on strike activity are somewhat unstable. Suffice it to say that a certain caution is necessary in their use. Nonetheless, they can give us an idea of Canada's position among a group of industrialized countries. Table 3-12 contains the weighted averages of strike frequency in 11 countries surveyed — Canada, the United States, and the nine most industrialized countries of Western Europe. This selection is obviously arbitrary, but it does, I believe, cover those countries with which we most often formulate a comparison. By taking a 10-year average, we can avoid the distortions associated with a surge in the number of renegotiated agreements in a particular year or with disturbances specific to a particular country.

Ideally, we should compare strike rates — that is, the number of strikes divided by the number of collective agreements signed during a given period. As this type of data is not available internationally, some weighting was achieved using the number of workers. However imperfect that indicator may be, it gives some idea of the state of labour-management relations in the countries under review. According to this criterion, Canada is among those countries where strike frequency is close to the average: among the 10 countries for which we have data, Canada is in seventh place. There are three categories of countries in this respect: those with a very low strike frequency (Norway, the

TABLE 3-13 Indicators of Strike Activity for Various Countries, 1948-81

Country	Percent of Workers Affected				Days Lost per Worker				Days Lost per Worker Affected			
	1948-57	1958-67	1968-77	1978-81	1948-57	1958-67	1968-77	1978-81	1948-57	1958-67	1968-77	1978-81
Belgium	7	2	2	1.5	0.6	0.1	0.2	0.16	8	9	10	10.0
Denmark	1	1	4	3.4	0.1	0.2	0.2	0.12	13	11	6	4.6
France	19	14	12	3.0	0.5	0.2	0.2	<sup>b</sup>	2	1	2	3.7
Italy	19	19	56	57.5	0.5	0.8	1.5	0.79	3	4	3	1.4
Netherlands	1	1	<sup>a</sup>	<sup>a</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	7	4	6	3.5
Norway	1	1	<sup>a</sup>	<sup>a</sup>	0.2	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	15	16	11	7.8
Sweden	<sup>a</sup>	<sup>a</sup>	1	5.2	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	24	12	10	3.4
United Kingdom	3	5	7	8.2	0.1	0.2	0.5	0.56	4	3	7	8.1
United States	5	3	3	1.4	0.7	0.4	0.5	0.33	15	15	17	22.5
West Germany	1	<sup>a</sup>	1	1.3	0.1	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	7	4	5	4.5
Canada	2	3	6	3.9	0.4	0.4	0.9	0.78	18	16	14	20.5
Canada's Rank	6	7	8	8	7	8	10	10	10	10	10	10

Sources: 1948-77: L. Loewen and J. Stewart, *Canadian Industrial Relations Perspective: Indicators, Descriptive Statistics* (Ottawa: Labour Canada, 1980), p. 8. 1978-81: International Labour Office, *Statistical Yearbook*.

a. Less than 1 percent.

b. Less than one-tenth of one day.

Netherlands, and Sweden); those with a very high strike frequency (Italy and France); and those with an average strike frequency. Canada is at the top of this last group, along with Britain.

Table 3-13 provides a group of strike activity indicators for various time periods. Each indicator reflects a different aspect of strike activity. For example, the percentage of workers affected by a strike gives us an idea of the diffusion of strike activity. The number of working days lost per worker is usually seen as an indicator of the cost of a strike. The number of working days lost per striking worker is used to calculate the average duration of work stoppages. A number of conclusions emerge from the data in this table:

- Strike activity varies considerably from country to country.
- Over the period 1948-81, the relative position of the countries surveyed with respect to strike activity remained relatively stable.
- In general terms, strike activity in Canada has consistently been among the highest in the countries surveyed and has been characterized by a relatively long average strike duration.
- With respect to the proportion of workers affected by strikes and the number of person-days lost per worker, there was a significant deterioration in the mid-1960s. It was probably this increase in industrial conflict, which lasted through the 1970s, that led a number of individuals and organizations to express concern about the state of labour relations in Canada.

From this summary, we shall now try to explain the state of international disparities in strike activity by answering the following questions:

- How can the differences in strike activity be explained?
- How can the relative position of Canada and the decline in this position since the mid-1960s be explained?

## ANALYSIS OF THE EVIDENCE

It is impossible, within the scope of this paper, to analyse in detail the situation and change over time in each country. Fortunately, the situation in most countries has been relatively stable since the late 1950s, and, as mentioned previously, the relative position of the countries surveyed has remained almost the same. Thus, limiting this analysis to the state of international disparities in strike activity does not restrict our view of what has happened as much as might be expected.

We will first look at the major factors explaining international variations in strike activity, using the conceptual approach previously discussed in the section on information and strike activity. We will then consider how these factors can explain Canada's relative position. Later, we shall return to the question concerning the significant increase in

strike activity in Canada after the mid-1960s which led to the decline in Canada's relative position internationally.

In order to explain international differences in strike activity, four factors with overlapping influence must be examined: those factors affecting the average quality and availability of the information required in the bargaining process; those affecting the average quantity of that information; the bargaining process itself; and the cost of the strike. We propose to study these factors in turn in order to situate Canada with respect to each, all other things being equal. Obviously, certain countries with less strike activity than Canada may have a similar situation as regards some of these factors. We must be careful to avoid drawing a general conclusion from only one factor, however, and should establish Canada's situation with respect to *all* the factors that account for international disparities in strike activity.

### *Quality and Availability of Information*

There are several factors that, on average, affect the quality of information required by the parties concerned to assess power relationships and the employer's ability to pay. Any variation in these factors may explain why those countries where the quality of information deteriorates more frequently and more markedly than elsewhere tend to experience greater strike activity. It seems that variations in the quality of information are more pronounced in those countries which experience frequent economic fluctuations. This phenomenon would result from differences in industrial structure and macroeconomic management. An open economy consisting mainly of industries that are strongly affected by cyclical instability (raw materials, processed goods, primary metals, pulp and paper, etc.) is likely to experience greater volatility. Under these circumstances, the quality of information available to the negotiating parties will deteriorate more often and more rapidly. Other things being equal, strike activity in such an economy is likely to be more significant.

Compared with the industrialized economies of Western Europe where strike activity appears to be somewhat lower, Canada has an economy that is particularly sensitive to economic fluctuations. Not only is it very much open to competition from abroad, but its industrial structure is dominated by cyclically unstable industries. In a different theoretical context, Jamieson (1979) also argued that Canada's greater strike activity is caused by:

The pattern of economic instability of the Canadian economy, specialized as it is in the export of a few types of raw materials and semi-finished goods, the development and production of which require capital-intensive operations and large investment projects that have unstable "multiplier effects" on the economy as a whole.

Thus the industrial structure and openness of the Canadian economy to

international business serve to explain the greater degree of strike activity in this country relative to other industrialized nations.

Macroeconomic management and the degree of government intervention in the economy, which vary from country to country, can have a more effective stabilizing impact in some countries than in others. As a result, there could be fewer and less damaging fluctuations in those countries and, consequently, greater stability in the quality of the information used by the parties during labour-management negotiations. Strike activity is therefore less likely to occur in countries with more effective stabilization policies. While a comparative study of the stabilization policies of the industrialized countries would be outside the scope of this paper, a full analysis of strike activity would obviously require a closer look at this factor.

A majority of governments in the industrialized nations of Western Europe have intervened regularly in wage-determination mechanisms either through income policies, wage controls, or the establishment of guidelines for salary increases. These programs and interventions, by reducing the margins for manoeuvring wage negotiations and by often restricting the right to strike during their period of application, have certainly influenced strike activity in those countries since the mid-1950s (Ulman and Flanagan, 1971; Flanagan et al., 1983). In Canada, this type of program and intervention has not been used often. Nevertheless, recent studies of strike activity in this country (Cousineau, 1980; Cousineau and Lacroix, 1983) suggest that the wage-controls program introduced in Canada a few years ago did reduce strike activity while it was in effect.

Assuming that the availability of the information on the financial situation of firms varies from country to country, this factor will have to be taken into account in the explanation of international disparities in strike activity. In those countries where firms must divulge information on their financial situation to their labour unions, asymmetry in information is not a factor in strike activity. Only miscalculations in bargaining caused by incomplete information would explain the occurrence of work stoppages in those cases.

In this respect, West Germany — where, as noted above, strike activity is very low — is very interesting. In the early 1950s two pieces of legislation were adopted in that country, making it mandatory for companies to have worker representatives on their boards of directors. The Co-determination Act of 1951 gave employees in the coal, iron, and steel industries equal representation (50 percent) on the boards of directors of the companies affected. The Works Constitution Act of 1952 gave a 33 percent representation to the employees of all industries, except the water and air transportation industries.<sup>14</sup> In such conditions, the asymmetric information between the employer and the employees is obviously minimal or non-existent. And the use of strikes by workers as

**TABLE 3-14 Social Security Expenditures as a Percentage of Gross Domestic Product, 1973-74**

Country	Percent	Country	Percent
Sweden	23.9	France	19.1
Netherlands	23.9	Austria	17.4
Denmark	20.5	Norway	17.2
Italy	19.7	United Kingdom	13.6
Belgium	19.4	Canada	13.5
West Germany	19.4	United States	11.7

*Source:* R.J. Adams, "Industrial Relations System in Europe and North-America." In *Union-Management Relations in Canada*, edited by John Anderson and Morley Gunderson (Toronto: Addison-Wesley, 1982), p. 475.

a means of obtaining from the employer information that is relevant to the negotiation of a wage contract is no longer justified.

Canada's situation in this respect is very different from that of West Germany and several other industrialized nations. This country has no legislation forcing employers to allow employees to sit on their boards of directors. Furthermore, the numerous foreign-owned corporations can quite easily, by virtue of their status, abstain from divulging any information that might be useful in the negotiating process. The problem of asymmetrical information and of the strikes that may result from it is thus probably more significant in Canada than in the majority of other industrialized countries surveyed here.

### *Quantity of Information*

The quantity of the information needed in all collective bargaining procedures constitutes a second group of factors that are capable of altering the average tradeoff between strike probability and bargaining duration. Again, the industrial structure plays an important role. Predictions about the firm's ability to pay in open industries require far more information than is the case for industries that are sheltered against any foreign competition.<sup>15</sup> An economy that includes a greater number of exposed industries can therefore be expected to experience greater strike activity.<sup>16</sup>

The scope of wage contracts is another factor that can vary considerably from country to country with respect to the average quantity of information required in the bargaining process. In some countries, many elements of working conditions, such as holidays, pensions, layoff procedures and life, health, or salary insurance are governed mainly by legislation or government programs. The figures in Table 3-14 are interesting in that respect, and cover medical care, income protection against ill health, unemployment insurance, old-age pensions, workmen's compensation, family allowances, maternity allowance, invalidity insurance, and life insurance.

There are considerable differences in what might be called the "social wage" portion of an individual's total income. In countries where social security expenditures are high, the negotiable portion of wage contracts is much smaller than elsewhere, and similar bargaining durations imply a lower strike probability. In fact, the sources of conflict during the negotiations are less numerous in those countries.<sup>17</sup> It is generally agreed that the scope of wage contracts in Canada is much wider than in the European countries under review (Adams, 1982). That may also contribute to the relatively greater strike activity in Canada.

### *Negotiating Procedures for Wage Contracts*

In Canada, more than two-thirds of wage contracts are signed between a firm and a union local. Each contract of this type is self-contained — that is, it covers all aspects of wage and other working conditions and labour-management relations for periods of varying durations. When the contract expires, all of its clauses also expire and become renegotiable. Typically, therefore, wage contracts in Canada are negotiated at the plant or firm level — where tensions and conflicts arise and where, as a result, unionized workers can exert a great influence. This system is typical of labour-management relations and collective bargaining in North America.

Negotiating practices in the European countries to which we normally compare ourselves are quite different. Generally speaking, a decision to strike in these countries is not made at the level of the individual plant or firm but at the industry level and even, for some work conditions, at the national level. The influence of the union local at the firm level is usually reduced. The example of West Germany can be used to illustrate this situation.<sup>18</sup> In that country 80 percent of organized workers belong to unions that are affiliated with the German Labour Federation (DGB). The federation is well structured and has considerable human and financial resources, as well as a recognized committee of experts. Management interests in West Germany are represented by the German Employers' Federation (DAB), which consists essentially of industry employer associations. It represents close to 80 percent of all firms employing 90 percent of West German workers. Wage contracts for entire industries in West Germany are negotiated between these two federations.<sup>19</sup>

The industry-wide agreements establish the minimum standards applicable to every firm in the industry. At the firm level, the employer and the workers' committee may negotiate improvements to those standards. The workers' committee is not a union in the legal sense, however, and it represents all of the firm's employees. Moreover, this committee does not have the right to strike. It is therefore illegal for workers to strike at the plant or firm level in order to enforce demands for changes to contracts that have been negotiated at the industry level.

In comparing the Canadian situation with the European approach to collective bargaining, it is obvious that the European approach affects

strike activity in two ways: it modifies the frequency of strikes, and influences their duration. It can be assumed that the quality and quantity of information available for the preparation of bargaining positions and arguments depend on the resources and effectiveness of both parties. In turn, the quality and experience of both the employers' and the union's negotiators depend on the size of their organizations. In this respect, by bringing together talents and resources, an industrial relations system such as West Germany's is beneficial since it reduces the likelihood of either party misinterpreting power relationships and the ability to pay or to endure a strike. That being so, and other things being equal, a reduction in strike frequency should occur.

The centralization of the bargaining process can also have an impact on strike duration. As noted previously, strikes in Canada are characterized by their long duration. Lengthy strikes are less likely to occur when bargaining is conducted on an industry-wide basis and labour disputes are capable of paralyzing an entire sector of the economy. If a labour union provides a certain strike compensation to its members, its strike funds could be exhausted rapidly when an entire industry is out on strike. Thus the union cannot give financial assistance to its striking members for a lengthy period. The cost of the strike for workers can also be higher in industry-wide strikes if the alternative temporary jobs they generally find are predominantly in the same type of activity. It would seem that workers are much less capable of supporting a lengthy strike when the stoppage covers a large economic sector than when the strike occurs in a particular firm or plant.

Moreover, in the case of industry-wide strikes, the cost of the strike to the firm will be lower since its competitors cannot take advantage of the strike to claim a larger share of the market. Thus, when bargaining is conducted on an industry-wide basis, workers usually resort to strikes, especially lengthy ones, far less often as a means of obtaining information and are more inclined to avoid miscalculations resulting from inaccurate information. At the same time, governments, often under pressure from public opposition to strikes, do not generally tolerate lengthy work stoppages that threaten the national economic health. As a rule, they tend to intervene rapidly in order to put an end to this type of conflict. By the same token, to avoid government involvement, the parties to the dispute often settle their differences after a very brief strike.

On the whole, therefore, the structure and procedures of wage negotiations can have a considerable impact not only on the number of strikes but also on their duration and, as a result, on strike activity in general.<sup>20</sup>

### *Strike Costs*

Government regulations dealing with labour relations, and in particular with the right to strike, vary considerably from country to country. For

example, strikes were illegal in the Netherlands until 1958, and even now they are still strictly regulated.<sup>21</sup> As a result of these differences the costs of strikes also vary, because some countries consider certain types of strikes illegal that are accepted as legal elsewhere. Thus, variations in strike activity in different countries can also be partly explained by this factor.

In addition, institutional systems of labour relations, which differ from one country to another, may influence the relative cost of a strike used as a means of reaching an agreement between unions and employers. If effective means other than strikes (mediation, conciliation, arbitration, and so on) are available to the parties in order to move the negotiations from an impasse (by increasing the information), they will undoubtedly be used before the strike. Thus countries with a large and effective institutional system of labour relations are likely to have a lower level of strike activity, other things being equal.

Lastly, as mentioned previously, certain industries can vary their production and their inventories from one period to another more easily than others because of their particular production function and/or the characteristics of their output. In those industries, the cost of a strike to the two sides will be lower, since the strike will cause a reorganization of the production schedule rather than a permanent loss of output for the firm or loss of income for the workers. Strike activity can be expected to be greater when the costs to both parties are reduced (Reder and Neumann, 1980). As a result, the industrial structure of a country affects the average cost of strikes in that country and may account in part for intercountry differences in strike activity.

Clearly, in order to provide an accurate explanation for Canada's relative position internationally with respect to strike activity, the Canadian situation would have to be compared with that in each other country, examining each of the explanatory factors discussed above. The object of this paper is to describe, using an acceptable theoretical approach, the factors that may affect the situation in Canada. The measurement of the impact of each factor on intercountry differences in strike activity will therefore have to be undertaken in other studies. It is felt that, compared to certain other industrialized countries, Canada is clearly at an overall disadvantage by virtue of its open economy, its industrial structure, the structure and patterns of its labour-management relations, and by the asymmetrical information between employers and workers.

Let us come back now to the significant increase in strike activity that occurred in Canada in the mid-1960s and lasted into the 1970s. As mentioned previously, this development altered Canada's relative position among the industrialized countries. This rise in strike activity was caused by the expansion of the labour force and increased unionization that took place after the mid-1960s and by the exceptional economic

shocks that occurred during the intervening period, leading to a significant deterioration in the quality of the information available to the negotiating parties. The question now arises whether these factors can also explain the decline in Canada's relative position among the industrialized countries surveyed. I believe that they can. A comparison between Canada and the United States will serve to illustrate that answer.<sup>22</sup>

Between 1960 and 1978 Canada's non-agricultural paid labour force grew by 86 percent, while the number of unionized workers increased by 125 percent. That led to a rise in the unionization rate from 32.2 percent in 1960 to 39 percent in 1978. Table 3-15 shows the situation in the United States during the same period. Between 1960 and 1978 the non-agricultural paid labour force rose by 60 percent in that country, but the number of unionized workers grew by only 19.7 percent. Thus, the unionization rate declined from 31.1 percent to 23.1 percent during that period. This reduction in union density was due mainly to the stability of the number of unionized workers in the private sector. Over the period 1960-78, that number increased by only 3.9 percent, whereas the non-agricultural paid labour force in the private sector grew by 54.9 percent. This resulted in the unionization rate in the private sector dropping from 34.5 percent in 1960 to 23.1 percent in 1978. In the public sector, by contrast, the labour force increased by 88.6 percent and the number of unionized workers by 238.9 percent, while the unionization rate rose from 12.8 percent in 1960 to 23.1 percent in 1978.

If it had not been for the drive toward unionization in the U.S. public sector, the overall unionization rate would have fallen from 31.3 percent to 20.2 percent instead of 23.1 percent between 1960 and 1978. This unionization in the public sector in the United States did not, however, have the same significance in Canada, because unionized workers in the U.S. public sector do not have the right to strike. Owing to these circumstances, what is important for the development of strike potential in the United States is the remarkable drop in union density in the private sector. In view of the marked difference in the development of strike potential in the two countries, therefore, it is not surprising that Canada's situation as regards strike activity has declined relative to that of the United States.

While comparable data on unionization are not easily available for the European countries as a whole,<sup>23</sup> it would appear that the growth in the labour force and in the unionization rate was not as strong there as it was in this country. Even if it had been, the impact on strike activity would not have been the same in those countries with a centralized collective-bargaining process. The impact of the increase in the number of union locals and unionized firms on strike activity in such countries is far less than it is in countries like Canada and the United States, where collective bargaining takes place at the plant or firm level.

TABLE 3-15 Labour Force and Unionization in the United States, 1960-78

Year	Paid Non-Farm Employees			Unionized Workers						Number	% of Employees		
	Private Sector	Public Sector	Total	Private Sector			Public Sector						
				Number	% of Employees	Number	% of Employees	Number	% of Employees				
1960	45.836	8.353	54.189	15.803	34.5	1.070	12.8	16.873	31.1				
1962	46.659	8.890	55.549	15.171	32.5	1.225	13.8	16.406	29.5				
1964	48.687	9.596	58.283	15.172	31.2	1.453	15.1	16.625	28.5				
1966	53.117	10.784	63.901	16.018	30.2	1.717	15.9	17.735	27.7				
1968	56.058	11.839	67.897	16.593	29.6	2.155	18.2	18.748	27.6				
1970	58.326	12.554	70.880	16.878	28.9	2.318	18.5	19.196	27.1				
1972	60.341	13.334	73.675	16.760	27.8	2.460	18.4	19.220	26.1				
1974	64.095	14.170	78.265	17.078	26.6	2.920	20.6	19.998	25.5				
1976	64.511	14.871	79.382	16.441	25.5	3.012	20.2	19.453	24.5				
1978	71.025	15.672	86.697	16.415	23.1	3.626	23.1	20.041	23.1				

Source: U.S. Department of Labor, *Survey of Current Business*, relevant years, and U.S. Department of Labor, *Directory of National Unions and Employee Associations*, 1979. For the private sector, figures are for unionized workers in the agriculture and fishing industries. For the public sector, figures are for unionized government workers, who we have assumed were all resident in the United States.

On the whole, therefore, the strong increase in unionization in Canada since the mid-1960s, combined with a very decentralized bargaining structure, has been a strong contributing factor in the decline of Canada's relative position with respect to strike activity. As for the impact of the decline in the quality of information since the early 1970s, Canada may well have been affected to a greater degree than the other industrialized countries by the significant volatility of raw-materials prices, given its industrial structure and the concentration of its exports in basic commodities since that time.<sup>24</sup>

### ***Strike Activity in Canada: Regional Disparities***

Regional disparities in strike activity will be analyzed after examining the international situation because the approach adopted with respect to the international situation can readily be transposed to the regional level. Insofar as the strike rates associated with collective agreements for 200 or more employees can be relied upon as an indicator of strike activity, Table 3-16 gives a picture of what happens in the five major regions of Canada. The first notable point is that overall strike activity varies greatly from region to region. For example, it is very low in the Prairies and very high in Quebec. However, the situation in Quebec seems to be largely due to the distinctly higher strike rate in the public sector in that province. The unusual nature of the public sector in Quebec is well known and need not be discussed further in this study. Even if restricted to strike activity in the public sector, however, the figures in Table 3-16 show a wide variation from region to region.

Returning to the explanatory schema we developed above, we find that industrial makeup, which differs from one region to another, can alone explain these regional disparities. In the private sector, even though bargaining structure and conditions may vary from one region to the next, these differences do not appear to be great enough to account for the interregional differences in strike activity. Moreover, since macroeconomic management is largely a federal matter, it should affect all regions in the same way. It would seem, then, that it is *mainly* interregional differences in industrial makeup that explain the interregional disparities in strike activity. Unstable industries, particularly those exposed to international trade and/or with lower strike costs in some regions, would account for greater strike activity.<sup>25</sup>

This conclusion is not contradicted by three recent econometric studies of strike activity in Canada (Cousineau, 1980; Dussault and Lacroix, 1980; and Swidinsky and Vanderkamp, 1982). In these studies, the industrial makeup of Canada and its five major regions are included among all the factors that account for strike activity. They show that when industrial makeup is taken into account in addition to the other factors explaining strike activity, the regional variables are not statistically

TABLE 3-16 Strike Rates in the Major Regions of Canada, 1967-81

Region	All Agreements			Private Sector			Public Sector		
	1967-71	1972-76	1977-81	1967-71	1972-76	1977-81	1967-71	1972-76	1977-81
Atlantic Provinces	8.1	7.4	4.0	12.2	19.3	8.1	0.3	2.9	2.4
Quebec	14.9	19.7	14.8	15.8	23.4	19.3	4.2	12.2	5.0
Ontario	18.2	13.4	7.8	21.1	21.6	14.9	3.7	3.0	2.6
Prairies	3.3	5.4	3.6	4.7	11.3	7.0	1.1	2.9	2.0
British Columbia	9.5	13.5	10.0	14.5	21.5	14.1	0.6	5.1	5.9

*Source:* Calculated from the Labour Canada data base. For further details see Table 3-3, Source.

significant. In other words, contrary to popular belief, regional peculiarities in Canada do not *per se* affect strike activity in the private sector.

## Possibilities of Reducing Strike Activity in Canada

When people believe that industrial conflicts basically result from the abuse of bargaining power by one or both sides, they devise various means of reducing such abuse. The traditional approach to explaining strike activity leads to recommendations of this type.

Given the approach adopted in this study, could Canada's situation be improved and would the benefits of doing so outweigh the costs? The above analysis has made it clear that the Canadian situation with regard to strike activity is probably not unusual. In view of the characteristics of the economy and the bargaining conditions and structures in Canada, more strike activity should be expected here than in most other leading industrial countries. Furthermore, the substantial growth in strike activity that began in the mid-1960s did not necessarily stem from an increase in union militancy, but rather from a sharp rise in unionization occurring in a period when the quality of information declined greatly. Given the decentralized nature of collective bargaining in Canada, these developments did not unexpectedly cause an increase in strike activity. Improvements to the situation are therefore only possible to the extent that the factors effecting strike activity can be controlled. And not all of them can.

The industrial makeup of the Canadian economy and its great openness to international trade, which to some degree explains Canada's particular situation as regards strike activity, constitute structural givens that are practically impossible to change in the short or medium term. Any industrial policies that could alter Canada's industrial structure in the long term are, or will be, aimed at general objectives that have nothing to do with reducing strike activity in Canada. Canada will therefore be much more vulnerable to strikes than many other industrial countries in the foreseeable future because of its industrial makeup and degree of openness to international trade.

The conditions and structure of collective bargaining constitute another factor identified as a potential promoter of strike activity in Canada. Countries where strike activity is low tend to have methods of sectoral or even national negotiations for certain working conditions. This is one factor that governments can influence. Indeed, some union federations in Quebec are asking the government, among other things, to set up a system of sectoral negotiations as well as certain provisions allowing the unionization rate to increase in all sectors of the economy. A system of sectoral negotiations, however, would not necessarily reduce strike activity in Canada. In countries where a sectoral negotiation system seems to have led to a lessening of strike activity, the union

power in individual companies is decidedly lower than in Canada. But in those countries where the union base in the companies has begun to question the lack of union power in individual companies (Italy and France, for example), strike activity has increased considerably despite sectoral negotiation systems.

In Canada, union power is concentrated at the company or even the plant level. A sectoral negotiation structure would not alter this basic historical fact. Under the circumstances, we believe that introducing a sectoral negotiation system in Canada would probably increase union power without thereby reducing strike activity. We are fearful that this institutional change would mainly affect wages rather than labour relations.<sup>26</sup>

The content of collective agreements is generally much broader in Canada than in the majority of countries where we found lower strike activity. Obviously, as the number of items negotiated in a collective agreement rises, the chances of disagreement also rise, and greater strike activity may result. The content of collective agreements may be reduced if legislation requires all employers to grant certain provisions stipulated in certain collective agreements and if social programs increase the prominence of "social wages" in workers' income. This is a political decision, and ultimately a social decision, and cannot be misconstrued as the primary purpose for reducing strike activity. In fact, in the countries where these social choices have been made, their objective was not to reduce strike activity but rather to change the distribution of income.

In our opinion, there are three other ways of reducing strike activity in Canada:

- Any measure that widely distributes relevant information concerning collective bargaining will promote the reduction of strike activity. Measures that reduce asymmetry of information between employers and employees could have the greatest impact on strike activity in Canada. West Germany indirectly achieved this objective by forcing companies to open their boards of directors to employees. In Canada, measures to encourage companies to divulge information relevant to labour contract negotiations could be introduced, though first they should be subjected to a cost-benefit analysis. It seems that the release of this information is the only way to reduce strike activity in Canada.
- Any program providing better training and information for union and management negotiators would have a beneficial effect on labour relations in Canada.
- Any improvements to macroeconomic management, by stabilizing the economy, would have a secondary and indirect effect on the reduction in strike activity.

On the whole, because of the characteristics of the Canadian economy, it is not easy to reduce strike activity in Canada. In any case, as Jamieson

(1979) observes, the economic costs of strike activity, to the limited extent that they can be estimated, seem low in Canada. They are certainly far lower than those of unemployment, absenteeism, and even accidents on the job.<sup>27</sup>

Therefore, there is no evident reason why Canada should embark on a far-reaching reform of the institutional mechanisms and legal framework governing labour relations. However, anything that could increase the quality and availability of information for the negotiating parties could significantly reduce strike activity in this country.

## Appendix

TABLE 3-A1 Empirical Findings as to Factors Determining Strike Activity

Author, Period and Sectors	Strike Activity	Economic Activity	Inflation	Nominal Wages	Real Wages	Relative Wages	Profit and Productivity
Canada							
Vanderkamp (1970)							
1901-39	N D						
1946-66	N D						
1946-66	N						
Smith (1973)	N						
1953-68	N D S						
Walsh (1975)	N						
1952-72	D						
	N D S						
Cousineau and Lacroix (1976)	N						
1967-74	D						
	N D S						
Skeels (1974)	N						
1952-71	N S						
	N D S						

TABLE 3-A1 (cont'd)

Author, Period and Sectors	Strike Activity	Economic Activity	Inflation	Nominal Wages	Real Wages	Relative Wages	Profit and Productivity
Great Britain							
Pencavel (1970)	N N	+	+	+	-	-	
1950-67							
Everything except Mining				-	0	0	-
Construction	N N	0	+	-	-	-	
Transportation	N N	+	+	-	-	-	
Metal Products	N N	+	+	-	-	-	
Mining	N	0	0	-	-	-	
1957-67							
Knight (1972)	N	0	0	0	+	+	
1956-68							
Manufacturing			-	-	-	-	
Bean and Peel (1972)	N S D						
1972							
6 industries — 10 regions							
Skeels (1974)	N N S	+	+	+	+	+	
1952-71	N S D						
Sapsford (1975)	N						
1953-71							
Shorey (1976)	N						
Average 1963-67							
33 industries							
Shorey (1977)	N N	0	+	+	0	0	
1920-39							
1950-67							
Everything except Mining							

United States								
Rees (1952)	N							
1915-38	+	0						
1939-50								
O'Brien (1965)	N							
1949-61	+	+	0					
Weintraub (1966)	N							
Scully (1917)	N							
1919-69								
Ashenfelter and								
Johnson (1969)	N							
1952-67	+	+	+					
Skeels (1971)	N	N	S					
1952-68	+	0	0					
Skeels (1974)	N	N	D	S				
1952-71	+	+	+	+				
Ghali (1977)	N							
1955-71								

*Source:* Lacroix, R., and R. Dussault, "La grève: ses facteurs déterminants et son effet sur les hausses de salaire. Une synthèse critique," *L'Actualité économique* 55 (October/December): 545-67.

*Note:* The symbols N, D and S indicate which dimensions of the strike phenomenon figure in the measurement of strike activity used by the author.

N: number of strikes;  
D: duration of strikes;  
S: size of strikes.

## Notes

This study is a translation of the original French-language text which was completed in October 1984.

1. Those authors who maintain there is a definite positive relationship between a union's relative power and the economic activity stress the fact that the revenue losses incurred by an employer as a result of a strike are a function of the level of business activity. However, the better the economic conditions the less striking workers suffer, since favourable economic conditions increase employment opportunities both for striking workers and members of their families. Some authors have disputed the existence of such a relationship (Vanderkamp, 1970; Sapsford, 1975; and Shorey, 1977). They acknowledge the procyclical pattern of the firm's revenue losses and the counter-cyclical pattern of the workers' loss. They maintain, however, that the capital losses incurred by a firm during a strike, and in particular the market losses, could follow such a strong countercyclical pattern as to make the company's overall income and capital losses follow a countercyclical pattern. They attribute this countercyclical behaviour of market losses to the fact that the customers of a striking company may have difficulty finding another supplier at a time when all companies are faced with strong demand and inventory depletion.
2. It should be noted that Rees's approach is a mere transposition to the explanation of strike activity of the theory of wage determination in a unionized environment that Hicks developed in 1932 in his classic work *The Theory of Wages*. Hicks explains very clearly how the levels of economic activity and employment, by changing the employer's concession function and the union's resistance function, alter the minimum wage level the two parties are prepared to accept rather than face a strike. However, Hicks never established a link between strike activity and economic activity or employment.
3. A detailed criticism of the Ashenfelter-Johnson model can be found in Siebert and Bertrand (1981).
4. Both sides to the bargaining will have the same optimal duration, since if one party has a stake in prolonging the negotiations, it can induce the other side to continue negotiations by giving way to some of the benefits that would result from longer negotiations. As a result of this move, the optimal bargaining duration will be shortened for the conceding party and lengthened for the party benefiting from the concession. Thus the optimal duration for both parties will tend to be the same.
5. Some readers may wonder why these protocols are not generally adopted. The reason is that they are often costly and that only by comparing them with the expected cost of a strike will their implementation become economical.
6. Interesting studies have been carried out by Hibbs (1976, 1978) and Shalev (1980).
7. In many countries, no distinction is made between strikes and lockouts in compiling data on work stoppages. Separate data on strikes and lockouts have been available since 1976 in Canada, but only at the level of total work stoppages.
8. For a comprehensive examination of intercountry differences in the measurement of strike activity see Fisher (1973), Shalev (1980) and Walsh (1983).
9. In Canada, political strikes are considered as strikes when they are intended to influence government decisions affecting wages and working conditions. Similarly, workers affected indirectly, such as those laid off because of a work stoppage, are not included in the data on striking workers.
10. It should be noted that the situation in the United Kingdom is unique. Labour-management activities have virtually no legal status and the parties are free to take industrial action at any time. Under the circumstances, the link between the expiration of wage contracts and the decision to strike is much less strong than in the majority of the other industrialized countries (Walsh, 1983).
11. For further details see Loewen and Stewart (1980), p. 30.
12. The Appendix has a complete descriptive table of the empirical findings of a large number of studies on strikes. Anderson and Gunderson (1982) have also carried out a comprehensive review of Canadian studies of strikes.

13. See Appendix.
14. For further details see Fürstenberg (1969 and 1977).
15. In the former case, such elements as changes in domestic and foreign demand, relative prices, exchange rates, and transportation costs would have to be taken into account.
16. Cousineau and Lacroix (1983) provided empirical results for Canada, showing that strike probability is lower in sheltered industries.
17. Note, however, that pressure is often shifted to the political arena in those countries, which leads to entirely different problems.
18. Relatively similar situations occur in other European countries, such as Belgium, the Netherlands and France. For a detailed description of the various industrial relations systems in Europe see the various articles in Crough and Pizzorno (1978).
19. Note that in West Germany three major types of work contracts are negotiated: contracts establishing wage rates, which are negotiated annually; contracts establishing wage structures; and general contracts (working hours, overtime, etc.). The two latter types of contract are of variable duration and may be valid for up to five years.
20. Note that in the European countries where negotiations are carried on at the sector level between a federation of unions and an employers' association, union power within the individual companies tends to be weak or non-existent. Obviously, if a system of sectoral bargaining is combined with powerful unions at the individual company level, a very different situation arises with a potential for much greater union power and perhaps strike activity.
21. See Adams (1982), and Akkermans and Grootings (1979).
22. The scope of this study clearly does not allow an examination of Canada's situation in comparison to each of the other ten countries.
23. See Bain and Price (1980).
24. The hypothesis was suggested to the author by Clarence L. Barber.
25. Basically the same diagnosis was put forward by Jamieson (1979) in his study for the ECC.
26. The study of the construction industry in Canada by Rabeau (1980) seems to support this conclusion.
27. Labour Canada estimates that a total of 11.7 million person-days were lost in 1977 from on-the-job accidents causing disability and loss of working time. The number of unpaid days lost remains unknown (Loewen and Stewart, 1980). In contrast, the number of person-days lost because of strikes amounted to 3.3 million in 1977 and 7.5 million per year over the next four years. A number of studies also show that working time lost because of various forms of absenteeism represents between 3.2 and 4.0 percent of total working time (Canada, Department of Labour, 1983). Time lost due to strikes has very rarely exceeded 0.4 percent of total working time over the past twenty years (Table 3-2).

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## The Structure of Collective Bargaining in Canada

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Policy makers are becoming increasingly aware of the critical role which the structure of collective bargaining can play in shaping economic performance. This awareness has also come to be associated with a widespread belief that Canada's bargaining structure is too fragmented to operate efficiently. Decentralization combined with relative wage resistance is seen as having given an inflationary bias to our wage bargaining system, and as being one source of the lack of responsiveness of wages to changing labour market conditions. Decentralization has also been advanced as a cause of our poor strike record, and as a reason for resistance to technological change. Despite such assertions, the precise role played by bargaining structure remains poorly understood. Only recently have attempts been made to examine its determinants in any systematic way, or to evaluate its impact on bargaining outcomes. Much work thus remains to be done. This is especially true in Canada, where an interest in reforming the structure of our collective bargaining system seems to have run far ahead of our knowledge of what such reform would bring.

Many questions must be answered before structural reform can be considered an appropriate target for policy. Some of these questions include whether decentralization is indeed the source of inflationary pressures in the economy; whether strike activity could be reduced or made less damaging under more centralized bargaining arrangements; and what consequences, if any, might result from greater centralization for the other aspects of our industrial relations system, such as worker representation. A final question to consider is whether meaningful change could be achieved through public policy action, even if it were deemed desirable, given the division of legislative authority over industrial relations among a federal and ten provincial jurisdictions.

The present paper aims to address these questions in its review of the current state of knowledge concerning collective bargaining in Canada. The first section will outline various definitions of bargaining structure. The second will provide a statistical profile of the current structure of collective bargaining in Canada, by industry and by region, as well as in the aggregate. It will also review the changes that have occurred since the 1960s. In the third section the discussion will be focussed on identifying the theoretical and empirical determinants of bargaining structure. The fourth section then will examine what consequences different types of bargaining structures have on wage settlements, strike activity, the bargaining and representation process, and macroeconomic performance. The final section, besides presenting a summary, will touch briefly upon the policy implications of structural reform.

## Defining Bargaining Structure

Bargaining structure may be defined, according to Kochan (1980), as "the scope of employees covered or affected by the bargaining agreement." The use of the terms "covered" and "affected" draws attention to the fact that groups of workers over and above those formally included in the bargaining unit which negotiates the agreement may be influenced by its terms. The same idea is captured in the distinction made by Weber (1967) between the "negotiation unit" and the "unit of direct impact." Thus, the negotiation unit is the formal unit within which collective bargaining actually takes place. The unit of direct impact, in comparison, includes informal linkages such as wage spillovers and pattern bargaining, which extend the scope of the agreement beyond its formal boundaries. Union settlements may thus be extended within or among firms, and even applied by firms with non-unionized employees. The automobile industry provides a classic example of pattern bargaining in the private sector: here negotiations have historically been based on the United Automobile Workers (UAW) targetting one of the big three manufacturers as the pattern setter, then pursuing similar terms with other firms (Levinson, 1964).

Spillovers are not, of course, confined to the private sector. Much concern has also been expressed in Canada over the possibility that high public sector settlements have spilled into the private sector with inflationary consequences. The evidence, though, is conflicting (Cousineau and Lacroix, 1977; Wilton, 1985). Spillovers have also been identified within the public sector, particularly in municipal bargaining. The Canadian Union of Public Employees (CUPE), for example, has a bargaining strategy of establishing a set of national bargaining goals, which it then seeks to achieve in local negotiations (Anderson, 1982). This type of pattern-following strategy represents an informal substitute for more centralized bargaining.

Precisely quantifying the full extent of these informal bargaining structures within the economy is extremely difficult, but their impact is no less real for that. Their existence, moreover, implies the need for considerable caution in interpreting data on the formal structure of bargaining in Canada, as well as any statistical work that is based on it.

## The Structure of Collective Bargaining in Canada

This section provides a brief statistical overview of the structure of collective bargaining in Canada. The data presented is based on a summary of Psutka's more detailed analysis (1983).<sup>1</sup> The data illustrate that, while varying from industry to industry and from region to region, bargaining structure in Canada is highly decentralized. For example, recent Statistics Canada (CALURA) data indicate that on the average one collective agreement is signed for every 143 of Canada's three million union members. In other words, there are some 20,487 separate agreements in existence. It is estimated that there are over 194,000 such agreements in the United States, a broadly comparable number given its larger labour force.

The pattern of bargaining structure in Canada is illustrated more systematically in Table 4-1, which divides data on collective agreements from Labour Canada among six employer-union bargaining configurations. These configurations are based on two union characteristics (single union and multi-union) and three employer characteristics (single employer/single establishment; single employer/multi-establishment; and multi-employer). Both absolute and percentage figures are included in the table to illustrate how the 1,850 bargaining units in the sample and the 2.4 million workers contained in those units are divided among the six bargaining structure categories.

Several qualifications must be borne in mind when interpreting the data contained in Table 4-1. First, the figures exclude the construction industry, which leads to the underrepresentation of the geographically decentralized, single-union/multi-employer structures that are most characteristic of this industry.<sup>2</sup> Second, the use of data on collective agreements, rather than negotiating units, tends to overestimate the extent of decentralization. For example, several agreements may emerge from a single set of coordinated negotiations. Wherever possible, an allowance is made for this occurrence in the data by categorizing some agreements under the heading of "joint bargaining" and including them as one unit.<sup>3</sup> Third, the focus on agreements covering 200 or more employees obviously excludes many thousands of smaller bargaining relationships that are mostly with a single union at the level of a single establishment.<sup>4</sup> Given the small size of these negotiating units, however, the proportion of workers excluded is also relatively small. Thus, while the data in Table 4-1 is based on only 1,850 units, it still covers about 2.4

**TABLE 4-1 Canadian Bargaining Structure: Agreements Covering 200 or More Workers, 1982**

Negotiating Structure	Percent		Absolute	
	Units	Workers	Units	Workers
<b>Single Employer</b>				
Single Establishment				
Single union	46.2	18.3	855	445,123
Multi-union	0.9	0.4	16	8,630
Multi-Establishment				
Single union	39.1	51.1	724	1,241,083
Multi-union	5.2	5.3	97	127,715
Multi-Employer				
Single union	7.5	14.1	138	341,995
Multi-union	1.1	10.9	20	265,710
<b>Subtotals</b>				
Multi-employer	8.6	25.0	158	607,705
Multi-union	7.2	16.6	133	402,055
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>1,850</b>	<b>2,430,256</b>

*Source:* S. Psutka, *The Structure of Bargaining Units: Issues, Patterns and Implications* (Ottawa: Department of Labour, 1983), mimeographed.

*Note:* Based on Labour Canada Collective Agreements Data.

million workers, amounting to about one-quarter of the employed labour force, or about two-thirds of the unionized labour force.

The number of bargaining units is, nevertheless, the appropriate guide to the number of collective agreements that must be negotiated, signed and administered, and the number of strike opportunities that will arise. Even when the consolidation resulting from informal linkages between units is acknowledged, an obvious picture of decentralization remains. About 85 percent of the units in Table 4-1, accounting for 69 percent of the workers in the sample, bargain under single-employer/single-union structures. That about 40 percent of the bargaining units and 51 percent of the workers illustrated in the table are covered by multi-establishment units does imply some consolidation, but it is minimal when compared to the bargaining structures in Scandinavia and continental Europe. In these countries multi-employer structures are the rule. In Canada, they are rare: only about 8 percent of the units, accounting for 25 percent of the workers in the sample, bargain under multi-employer structures. Furthermore, a significant portion of these units are local in scope. Again, this contrasts with the pattern in Scandinavia and continental Europe, where industry-wide bargaining at the regional or national level is common. Only the United States and the United Kingdom exhibit comparable levels of decentralization.

## Bargaining Structure by Industry

Bargaining patterns vary considerably within industries as well as between industries. This is illustrated in Table 4-2, which breaks down the data in Table 4-1 by industry. Only in fishing do multi-employer bargaining structures predominate. In this industry, the consolidation among employers represents a natural defensive response on the part of small independent shipowners in the face of union organization. Elsewhere, single-employer/single-union structures predominate. In forestry,<sup>5</sup> mining and manufacturing, bargaining units are based primarily at the single-establishment level. In sectors such as transport and communications, trade and finance, services and public administration, units are also single-employer/single-union, but typically encompass more than one plant or establishment of the employer.

Substantial variation in bargaining unit structure within industries is also apparent. While single-employer bargaining is clearly the rule, sectors such as manufacturing, transport and communications, trade and finance, and services all contain significant elements of multi-employer bargaining. In manufacturing, for example, approximately 22 percent of the work force is covered by multi-employer agreements. These are most common in such subsectors as pulp and paper and forest products (particularly on the West Coast), as well as in textiles and printing. In the latter cases, as in fishing, small employers in a competi-

**TABLE 4-2 Industrial Bargaining Unit Structure in Canada, 1982:  
200 or More Workers**

Negotiating Sector	Forestry		Fishing		Mining	
	Units	Workers	Units	Workers	Units	Workers
(percent)						
Single Employer						
Single Establishment						
Single union	68.6	70.0	33.3	17.0	76.9	45.5
Multi-union	2.9	1.9	—	—	1.5	.4
Multi-Establishment						
Single union	25.7	25.6	—	—	16.9	42.0
Multi-union	2.9	2.5	—	—	1.5	2.9
Multi-Employer						
Single union	—	—	50.0	54.7	3.1	9.1
Multi-union	—	—	16.7	28.3		
Subtotals						
Multi-union	5.8	4.4	16.7	28.3	3.0	3.3
Multi-employer	—	—	66.7	83.0	3.1	9.1
Total	35	18,560	6	5,300	65	64,625

TABLE 4-2 (cont'd)

Negotiating Sector	Manufacturing		Trans. & Comm.		Trade & Fin.	
	Units	Workers	Units	Workers	Units	Workers
(percent)						
Single Employer						
Single Establishment						
Single union	71.6	43.4	24.6	8.9	22.3	7.8
Multi-union	1.7	1.3	—	—	—	—
Multi-Establishment						
Single union	18.1	31.6	58.1	56.7	59.6	64.8
Multi-union	1.2	2.2	.5	.4	2.1	2.9
Multi-Employer						
Single union	6.3	17.5	14.1	11.8	14.9	16.6
Multi-union	1.0	4.1	2.6	22.3	1.1	8.0
Subtotals						
Multi-union	3.9	7.6	3.1	22.7	3.2	10.9
Multi-employer	7.3	21.6	16.7	34.1	16.0	24.6
Total	744	579,301	191	418,510	94	121,790

Negotiating Sector	Services		Public Admin.		Total	
	Units	Workers	Units	Workers	Units	Workers
(percent)						
Single Employer						
Single Establishment						
Single union	21.3	8.2	33.3	8.9	46.2	18.3
Multi-union	.2	.1	—	—	.9	.4
Multi-Establishment						
Single union	53.0	45.4	63.8	77.1	39.1	51.1
Multi-union	16.1	8.9	.9	8.5	5.2	5.3
Multi-Employer						
Single union	8.4	19.3	1.4	4.2	7.4	14.1
Multi-union	1.0	17.9	.5	1.2	1.0	10.4
Subtotals						
Multi-union	17.3	26.9	1.4	9.7	7.1	16.6
Multi-employer	14.4	37.2	1.9	5.4	8.4	25.6
Total	502	733,640	213	488,530	1,850	2,430,256

Source: S. Psutka, *The Structure of Bargaining Units: Issues, Patterns and Implications* (Ottawa: Department of Labour, 1983), mimeographed.

Note: Based on Labour Canada Collective Agreements Data.

tive industry have opted to join together to counterbalance union power. A significant proportion of the work force in the service sector (37 percent, amounting to about 270,000 workers) is also covered by multi-employer bargaining structures. This figure largely reflects associations

among school boards and hospitals formed for administrative convenience.

Table 4-2 illustrates, multi-union bargaining is much less common than multi-employer bargaining. Unions, in other words, have been less inclined to form councils for bargaining purposes than employers have been to form associations. Where union consolidation has occurred, it has typically been narrowly based. In the case of the service sector, for example, such consolidation largely reflects union bargaining with school boards and hospitals. Indeed, the approximately 18 percent of service sector workers covered by multi-union/multi-employer bargaining are all employed in the health subsector in Quebec. In the transport and communications sector, where about 22 percent of workers are covered by multi-union negotiations, the explanation is bargaining through multi-trade councils in the railway industry.

### ***Bargaining Structure by Region***

As the regional breakdown in Table 4-3 makes clear, broader-based bargaining structures are relatively more common in British Columbia and Quebec. In British Columbia, for example, half the workers in units with 200 or more members are covered by multi-employer agreements, while 15 percent are covered by multi-union agreements. Legislation in British Columbia supports the formation of both employers' associations (accreditation) and trade union councils as a means of rationalizing the bargaining structure. Traditions of broader-based bargaining in the province predate the legislation, however, which suggests that labour law may have served a facilitating role rather than an initiating role.

In Quebec, approximately one-third of the workers in bargaining units with 200 or more members are covered by multi-employer structures, with a similar proportion applying to multi-union structures. Province-wide hospital and school negotiations between employers and unions, operating under supportive legislation, largely account for this centralization.

### ***Joint Bargaining***

Reference has already been made to the existence of informal pattern bargaining. Formal pattern bargaining may, however, also occur. A collective agreement may include provisions to settle for a rate linked to the outcome of a predesignated negotiation, as in the case of firefighter negotiations in British Columbia, which are linked to the terms of the settlement reached in Vancouver. Such arrangements obviously serve to expand the scope of an agreement beyond the formal negotiation unit.

A further example is joint bargaining under which several collective agreements emerge based upon a single set of negotiations. The advan-

TABLE 4-3 Regional Bargaining Unit Structure in Canada, 1982: 200 or More Workers

Negotiating Structure	Regions					
	Atlantic		Quebec		Ontario	
	Units	Workers	Units	Workers	Units	Workers
(percent)						
Single Employer						
Single Establishment						
Single union	39.4	15.7	69.7	21.0	54.0	34.8
Multi-union	4.4	2.2	0.6	0.1	0.7	0.5
Multi-Establishment						
Single union	45.3	65.6	25.1	38.0	30.8	41.1
Multi-union	1.5	0.5	1.4	9.0	10.6	10.2
Multi-Employer						
Single union	9.5	16.1	7.7	8.6	3.8	12.7
Multi-union	—	—	1.2	23.3	0.1	0.8
Subtotals						
Multi-union	5.9	2.7	3.2	32.4	11.4	11.5
Multi-employer	9.5	16.1	8.9	31.9	3.9	15.5
Total	137	137,130	350	558,062	766	632,330
					241	261,839

Source: S. Psutka, *The Structure of Bargaining Units: Issues, Patterns and Implications* (Ottawa: Department of Labour, 1983), mineographed.  
 Note: Based on Labour Canada Collective Agreements Data.

Negotiating Structure	British Columbia		Interprovincial		Totals	
	Units	Workers	Units	Workers	Percent	
					Units	Workers
<b>Single Employer</b>						
Single Establishment						(percent)
Single union	30.4	9.1	—	—	46.2	18.3
Multi-union	1.4	0.6	—	—	0.9	0.4
Multi-Establishment						
Single union	46.9	37.6	82.6	73.3	51.1	724
Multi-union	1.0	1.5	4.0	1.1	5.3	97
Multi-Employer						
Single union	16.0	38.2	9.4	8.7	14.1	138
Multi-union	4.3	13.0	4.0	16.9	10.9	20
<b>Subtotals</b>						
Multi-union	4.7	15.1	8.0	18.0	16.6	133
Multi-employer	20.3	51.2	13.4	25.6	25.0	158
Total	207	295,936	149	344,959	100.0	100.0
					1,850	1,850
						2,430,256

Source: S. Psutka, *The Structure of Bargaining Units: Issues, Patterns and Implications* (Ottawa: Department of Labour, 1983), mimeographed.  
 Note: Based on Labour Canada Collective Agreements Data.

tages of this practice lie in its provision of economies of scale in bargaining without the imposition of formal legal ties. While the absolute number of units engaging in joint bargaining is not large, such arrangements nevertheless cover approximately 25 percent of the employees in units of 200 or more workers (Psutka, 1983, p. 52).

Joint bargaining appears fairly evenly distributed across industries, but does show some regional variation. Quebec, for example, has the highest incidence. About 40 percent of its workers in units of 200 or more workers are covered by joint negotiations. This rate is twice that in Ontario and British Columbia, the provinces with the next highest incidence. Joint bargaining is also common in interprovincial units, where about 35 percent of workers are covered.

### ***Changes in Aggregate Bargaining Structure***

Table 4-4 indicates changes in the aggregate bargaining structure between 1965 and 1982 for units containing 500 or more workers. (Figures for units with 200 or more workers are not available for the earlier period.) It is clear from the table that multi-establishment bargaining has increased in relative importance since the mid-1960s. This trend is evident both in terms of numbers of bargaining units and workers covered. Over the same period, the proportion of units with single-establishment bargaining has roughly halved and the proportion of workers covered has dropped by two-thirds.

Reference to the absolute numbers of bargaining units (the figures in parentheses in the table) indicates that the changed proportions derive from a five-fold increase in multi-establishment units over the period compared to only a 7 percent increase in single-establishment units. A large part of this growth in multi-establishment units was undoubtedly due to the extension of collective bargaining rights in the public sector and para-public services such as education and health. As the industrial breakdown in Table 4-2 indicates, these sectors contain a high proportion of multi-establishment units.

On the union side, single union agreements continue to be the norm. Of the 432 units with 500 or more workers added to the sample during the period from 1965 to 1982, 360 units, or 83 percent, were single union. The proportion of multi-union structures did, however, increase slightly as a result of an increase in the number of multi-union, multi-establishment units. While such structures are relatively uncommon in public administration outside Quebec, where they do exist they are usually found in the health and education subsectors.

### ***Changes in Industrial Bargaining Structure***

Based on the industrial breakdown employed by Christy (1969), Table 4-5 compares bargaining structure in 1982 with the average for the period

TABLE 4-4 Changes in Bargaining Structure, 1965-82: 500 or More Workers

Negotiating Structure	1965		1982		Change
	Units	Workers	Units	Workers	
Single Employer					
Single Establishment	56.1(242)	34.3	30.5(259)	12.8	-25.6(+17)
Single union	3.7(16)	2.9	0.7(6)	0.2	-3.0(-10)
Multi-union					-2.7
Multi-Establishment					
Single union	18.5(80)	22.2	46.6(394)	53.6	+28.1(+314)
Multi-union	2.9(13)	3.6	7.7(65)	5.4	+4.8(+52)
Multi-Employer					+31.4
Single union	17.3(75)	21.5	12.3(104)	15.7	-5.0(+29)
Multi-union	1.4(6)	15.6	2.3(20)	12.5	+0.9(+14)
Subtotals					+1.8
Multi-union	8.0(35)	37.1	10.7(91)	18.1	-5.8
Multi-employer	18.7(81)	22.1	14.6(124)	28.2	-3.1

Source: S. Psutka, *The Structure of Bargaining Units: Issues, Patterns and Implications* (Ottawa: Department of Labour, 1983), mimeographed.  
 Note: Based on Labour Canada Collective Agreements Data. The figures in parentheses are absolute figures; those standing alone are percentages.

TABLE 4-5 Bargaining Structure by Industry, 1953-68 and 1982: Units with 500 or More Workers

Industry	Percent of Employees Covered by Types of Negotiations								
	Single Establishment			Multi-Establishment			Multi-Employer		
	1953-68	1982	△	1953-68	1982	△	1953-68	1982	△
Mining	48	37	-11	34	52	+18	18	11	-7
Manufacturing <sup>a</sup>	42	34	-8	26	40	+14	31	27	-4
Transportation <sup>b</sup>	10	11	+1	5	27	+22	85	62	-23
Communications	13	1	-12	87	91	+4	-	8	+8
Public Utilities	2	6	+4	93	88	-5	5	6	+1
Trade <sup>c</sup>	30	5	-25	5	69	+64	65	26	-39
Community Services <sup>d</sup>	42	6	-36	57	54	-3	1	40	+39
Personal Services	56	8	-48	2	21	+19	42	71	+29

Source: S. Psutka, *The Structure of Bargaining Units: Issues, Patterns and Implications* (Ottawa: Department of Labour, 1983), 1953-68 data derived from R.J. Christy, *The Structure of Collective Bargaining: A Statistical Representation* (Ottawa: Labour Canada, 1969).

Note: Adjustments to the industry breakdown for 1982 are necessary to make the data comparable with that for 1953-68.

- a. Forestry is added to the 1982 figures to make them comparable with 1953-68 data.
- b. Includes railway employees.
- c. Includes finance.

- d. Community services include the education and health subsectors.
- e. Personal services include entertainment, business and personal services.

1953-68. The data, which indicate the percentage of employees covered by different types of employer bargaining structures, refer to units with 500 or more employees. The general shift toward multi-establishment units is readily apparent. In terms of specific industries, the most dramatic change occurred in the trade sector. Growth in company-wide bargaining at city level and in some instances also at the provincial level by workers in supermarkets and other retail outlets was an important contributor. Significant changes also occurred in transportation, where a shift from multi-employer to company bargaining reflected a decline in employment on the railways and the growth of air transportation. Major changes were also recorded in community services, toward a higher proportion of multi-employer bargaining. This was based largely on developments within the hospital and education sectors in Quebec. In personal services, the significant increases in the importance of multi-employer and multi-establishment bargaining can be traced in part to the growth of collective bargaining in hotels (particularly in British Columbia), theatres, and among security guards. Finally, the development of multi-employer bargaining in communications can be traced to one specific relationship involving joint bargaining by B.C. Telephone and Canada Telephone Supplies.

## ***Summary***

Informal linkages based upon coordination among employers, pattern bargaining and the establishment of regional or national negotiating targets by unions all imply that Canada's collective bargaining structure is less fragmented than is often supposed. Nevertheless, our system still ranks as highly decentralized by international standards. Formal collective bargaining is typically confined within the bounds of a single union and a single employer and is local in scope. Since the mid-1960s, however, multi-establishment bargaining has grown in importance compared to single establishment bargaining among units with 500 or more workers. An important element in this development has been the extension of collective bargaining rights to public and quasi-public sector workers. In other words, the increased relative importance of multi-establishment units has probably resulted more from the addition of new units with this type of bargaining structure than from the consolidation of pre-existing units. It seems, in fact, that once a bargaining structure is established, it tends to remain fixed over relatively long periods. In addition to describing broadly the experience of the 1970s, this conclusion is also consistent with that reached by Christy (1969) after considering data for the 15-year period from 1953 to 1968.

It should not be concluded, however, that because bargaining structures have been relatively stable historically they must remain so. Recent evidence from the United States suggests that the combined

effects of recession, deregulation and competition from both domestic non-union as well as international sources have had an important impact on that country's bargaining structure, pushing it toward greater decentralization. Employer initiatives in industries such as construction, retail food, airlines and trucking have created pressure for greater decentralization in order to negotiate agreements that are more responsive to changing market conditions. In Canada, a similar pressure appears to be emerging in the British Columbia construction and forest product industries. In construction in particular, an important motivating factor has been the increased competition from non-union firms that have undermined the ability of the province's construction unions to take wages out of competition.

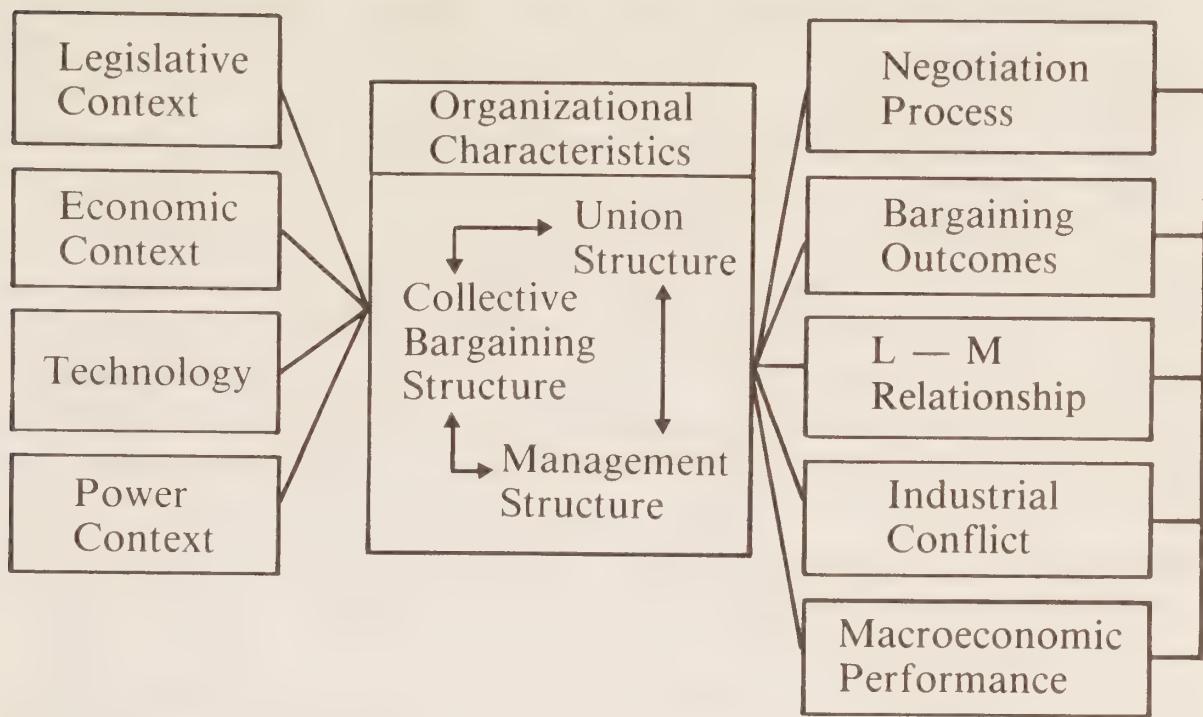
## **Bargaining Structure: Theoretical Role and Empirical Determinants**

A bargaining structure is an intervening variable in the collective bargaining system. This is illustrated in Figure 4-1, which shows this structure as a function of four aspects of the external environment. These aspects include the legislative or public policy context, the economic or market context, the technological context, and the power context (the latter comprises political constraints that may operate within unions and firms in relation to the prevailing bargaining structure). On the right-hand side of the figure the bargaining structure is related to five key interrelated areas of policy concern. These are the negotiation or bargaining process, bargaining outcomes over both wage and non-wage issues, the labour-management relationship (including the degree of worker participation and the nature of the process of contract administration and grievance arbitration), industrial conflict, and macroeconomic performance.

The impact that the bargaining structure has on these five important areas provides the rationale for its significance as a potential tool of public policy. Unfortunately, the highly interdependent nature of these policy areas makes it extremely difficult to ensure that the impact of a change in the bargaining structure will be confined to only one policy area. Thus, the desired impact on one area may only be achieved at the cost of unintended and possibly undesirable consequences for the others. Furthermore, because the bargaining structure is itself dependent on the economic, technological and power contexts, as well as on the legislative or public policy context, policy choices are also constrained by the need to match the bargaining structure to its broader environment (Kochan, 1980).

As Figure 4-1 illustrates, room for manoeuvre is further limited by the fact that the bargaining structure is also closely linked to the organizational characteristics of unions and management. Where the bargaining structure is decentralized, as it is in Canada, this will be reflected in, as

**FIGURE 4-1 Bargaining Structure and the Collective Bargaining System**



well as being a reflection of, the organizational and decision-making structures of the parties to collective bargaining. Changing the bargaining structure will have important implications for these organizational structures. An attempt to promote more centralized bargaining in a system where the union movement is decentralized or fragmented along craft lines, for example, may lead to organizational strains that will heighten both intraorganizational and interorganizational conflict.

These issues are discussed in greater detail in the sections which follow. The aim at this stage is merely to emphasize that any attempt to alter the bargaining structure through public policy will require “the delicate use of a blunt instrument” (Strand, 1984).

### *The Determinants of Bargaining Structure*

Depending on the jurisdiction, the ultimate decision on the appropriate bargaining unit is made either by the federal labour relations board or one of the ten provincial boards. In a very real sense, therefore, the bargaining structure is determined in the first instance by a legal decision (Arthurs, 1981). This decision, as well as the constraints imposed by the basic framework of Canadian labour law, constitutes an essential starting point for any analysis of the determinants of Canada’s collective bargaining structure.

#### *Legislative Context*

The basic framework of labour law in Canada assumes that the collective

bargaining relationship is between a single union and a single employer (Weiler, 1980). Moreover, the administration of this law is divided between eleven jurisdictions. Both factors are an obvious barrier to the formation of more centralized bargaining structures. Only in the federal jurisdiction, for example, which covers about 10 percent of the work force, is it possible to establish bargaining units that are national in scope.

Even without these constraints, however, it is unlikely that a more centralized unit, encompassing multi-employer bargaining for example, would emerge as the initial negotiating structure. This is the result of the basic tension that exists in determining the appropriate unit — the tension between its role as the *representation district* within which the union gains certification, and its role as the *negotiating unit* which sets the formal boundaries for collective bargaining. Too much emphasis by labour boards on what might be the most rational structure over the long run may only serve to frustrate the establishment of any kind of collective bargaining relationship at all.

Very little guidance has been given to labour boards on how they should resolve this dilemma, and they have therefore had to formulate their own criteria. While the preferences of employees and employers will always be important, there are other considerations, such as the community of interest among those seeking certification; their geographical proximity; the bargaining history of the plant or industry, including any pre-existing informal arrangements; and the degree of functional coherence and interdependence among work operations covered by the proposed unit (Arthurs, 1981). However, given that the goal of public policy in all jurisdictions has been to facilitate the employees' choice to engage in collective bargaining if they so wish, and given that unions usually find it less costly to organize small cohesive groups working at the same location, the practical outcome has been a bias toward the creation of single-establishment, single-employer structures. A particularly forceful example of this result is shown in the Canada Labour Relations Board's decision that an individual bank branch constitutes an appropriate unit for certification, despite the possible long-term consequences for bargaining structure.

The problem with this emphasis on the employees' right to organize is that once an initial pattern is set, it tends to exert a powerful inertial force, a fact that is well illustrated by the data on changes to the bargaining structure presented earlier. It has therefore been argued, with some justification, that the process of determining the bargaining unit has in practice been "the primary influence shaping the collective bargaining structure in Canada" (Arthurs, 1981, p. 449).

Two approaches to overcoming this inertia and promoting more consolidated bargaining can be found in Canadian labour legislation. The approaches are quite distinct. The first one, adopted by the Nova Scotia

government in the context of the so-called “Michelin Bill,” is to require that unions seek certification for the bargaining units encompassing all the plants belonging to multi-establishment firms operating within the province. This reduces the fragmentation associated with negotiating separate agreements for each plant or establishment, but it also makes the task of obtaining an initial certification more costly for the union. Moreover, since the legislation only applies to new units, it does nothing to tackle fragmentation among existing ones.

The second response, followed by British Columbia, is to empower the Labour Relations Board to create councils of unions if the board believes that such councils will serve the interests of industrial relations stability. British Columbia is the only jurisdiction in North America that has such a mechanism for changing the bargaining structure as an act of public policy (Strand, 1984). Provincial legislation also facilitates consolidation on the employers’ side by allowing groups of employers in any industry to gain accreditation as a bargaining agent, thereby providing a legal basis for the creation of multi-employer bargaining structures should employers consider them desirable. While multi-employer bargaining in British Columbia clearly predates this legislation, it is nevertheless interesting that the province has by far the highest incidence of this type of bargaining structure. Moreover, a number of employers have taken advantage of the legislation since its introduction, one of the most notable examples being the province’s brewery companies. Although other jurisdictions also have accreditation legislation, its scope has typically been confined to the construction industry.

British Columbia’s approach has two important advantages. First, it allows the Labour Relations Board to place an emphasis on the requirements of representation when it first designates a unit, knowing that subsequent adjustment is possible. Second, intervention to achieve desirable rationalization in the bargaining structure is not confined to newly certified units. Intervention can therefore be used to tackle historic fragmentation, such as that caused by traditional but outdated craft divisions.

### *Economic and Technological Context*

Briefly, to reiterate the argument of the last section: a significant amount of the decentralization evident in Canadian bargaining structures can be traced to the legal context of the initial certification. Subject to the obvious limits imposed by our system of federalism, movements toward more centralized multi-employer structures could nevertheless be brought about if either of the negotiating parties had both the desire and the ability to effect the change.<sup>6</sup>

In economic terms, the desire for change, expressed for example as a preference for multi-plant or multi-employer bargaining over single-plant bargaining should reflect an estimate of the relative costs and

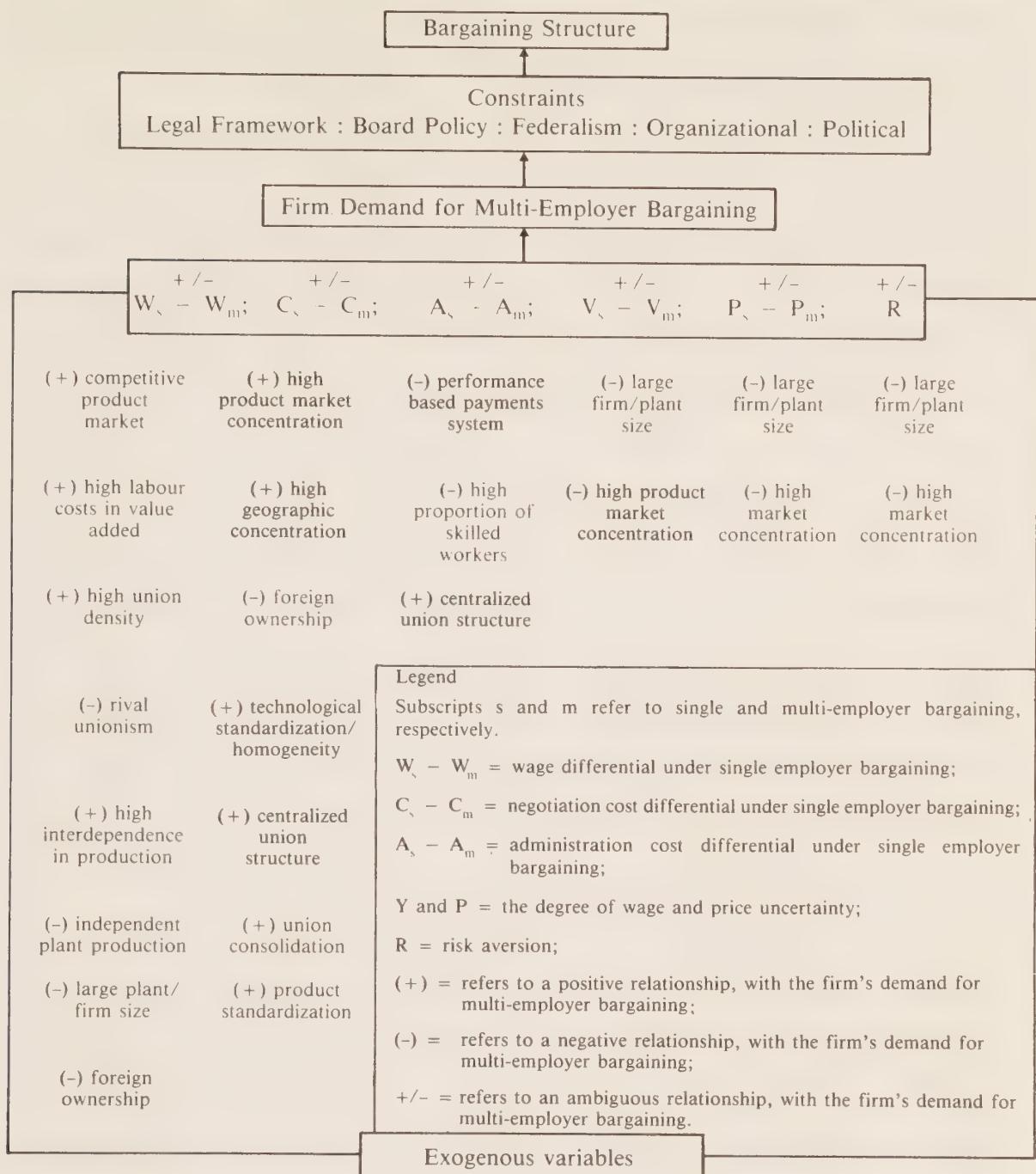
benefits of these rival structures. Expressing this idea more formally, it is possible to conceive of union and employer demand functions for different types of bargaining unit. This demand would depend on factors such as the expected "prices" of the different units as measured by the wage differential between them; the expected level of negotiating and contract-administration costs; the degree of price and wage uncertainty; and risk aversion. The last two elements have been included, following Hendricks and Kahn (1984), to reflect the concern of utility-maximizing firms and unions over the variability as well as the level of their profits and wages. Within this framework, firms will obviously prefer multi-employer structures if they are associated with lower wage levels, lower uncertainty over wages and prices, and lower political, contract-administration, or negotiating costs. Unions are also likely to be attracted to multi-employer units by their lower negotiation and administration costs and lower levels of uncertainty over wages; however, the possibility that wage levels might be lower under such structures would obviously be a major disincentive.

Unfortunately, determining on an *a priori* basis the net effect of different bargaining structures on wage levels, negotiating costs and wage and price uncertainty, and hence the preferences of firms and unions for these structures, is problematical. It is not clear, for example, whether wage levels will be higher or lower under multi-employer bargaining. On the one hand, single-firm units might allow the union power to whipsaw<sup>7</sup> individual employers, implying higher wage levels than under multi-employer structures. On the other hand, by extending the terms of an agreement to a larger portion of the relevant industry, multi-employer units may reduce the effective elasticity of the demand for labour and so imply greater union power and higher wage levels than under single-employer structures.

Similar ambiguity is evident in the case of negotiation costs. While multi-employer structures potentially save on contracting costs by eliminating the need to negotiate separate company agreements, they also impose additional costs on employers by creating the need for inter-organizational bargaining. In addition, while multi-employer bargaining may reduce some cost and pricing uncertainty by imposing the same wage settlements and work rules on all competitors, uncertainty over the actual level of wage settlements will remain. Indeed, wage uncertainty could actually be greater under this structure than under single-firm bargaining because of the need for agreement between multiple constituencies on both sides of the bargaining table.

Figure 4-2 illustrates the sources of ambiguity in the interpretation of the different elements in the firm's demand function for multi-employer bargaining. It also brings together the many factors that have been advanced to explain bargaining structure in both case-study and multi-

**FIGURE 4-2 A Model of the Determinants of Bargaining Structure**



ivariate statistical analyses, and presents them within the context of a model of a firm's demand for multi-employer units.

The firm's demand function is emphasized rather than the union's, because a union is likely to find it easier to achieve informal coordination (through pattern bargaining) should it desire greater consolidation. The reason is simply that for the union the achievement of informal multi-employer bargaining involves only intraorganizational coordination, while for the employer it involves interorganizational coordination as well. There are some exceptions to this. The Teamsters, for example, have been prepared to give up their freedom to manoeuvre against

individual trucking firms for the administrative convenience of a single master agreement (Weiler, 1980, p. 163). As a general rule, however, whenever legislation has made it possible, employers have shown a greater willingness to pursue consolidation through accreditation than have the unions through the formation of councils.

Figure 4-2 illustrates the multiple and often conflicting influences on the different elements of the firm's demand function. The wage differential between single-employer and multi-employer bargaining, for example, depends ultimately upon the firm's bargaining power under these different structures. As the extreme left-hand column in Figure 4-2 indicates, this power depends, in turn, on factors such as the degree of competition in the product market; the importance of labour costs in total value added; the level of unionization in the industry and its degree of fragmentation through rival unionism; the degree to which production is interdependent between plants; the size of the firm and its establishments; and whether or not it is foreign owned. More specifically, where product markets are highly competitive and labour costs count as an important element in total costs, individual firms will be vulnerable to significant profit declines if they let their wages get out of line with those of their competitors. This is most likely to happen if firms face a powerful union. In combination, these factors are therefore likely to increase the demand for multi-employer bargaining. In Canada, for example, the combined effects of competition and strong unions help explain the formation of employers' associations in both the construction and clothing industries.

The demand for multi-employer units is also likely to increase if a firm's plants are highly integrated, since a strike at any one plant can shut down the entire operation. If, however, the firm has independent operations that produce standardized products, it has greater power under plant-level bargaining than it has under more consolidated arrangements. During a strike, a firm which bargains on a plant-by-plant basis has the option of switching production to those plants not affected by the strike. Indeed, for Canadian firms that have plants in other provinces there is the added advantage that these plants will also be immune from secondary picketing.

The demand for multi-employer bargaining is likely to be decreased if the firm is large or if it is foreign owned. Such firms usually possess sufficient resources to withstand strike pressure without needing the support of other employers. Multinationals in particular may find it possible to supply the struck market from their overseas plants. Rivalry among unions will also tend to reduce the demand for multi-employer structures, since it serves to fragment union strength. The Canadian mining industry, which bargains on a predominantly single-union and single-establishment basis, provides a good illustration of such rivalry.

The workers in the industry are represented by unions that are often bitter competitors. One important source of this competition is the existence of deep ideological differences between national and international unions (Weiler, 1980).

The second element of the firm's demand function for multi-employer bargaining is the anticipated differential in negotiation costs compared to single-employer bargaining. As Figure 4-2 illustrates, a high level of product market concentration, high geographic concentration of firms, the absence of foreign ownership, standardization of product and technology, and centralized or consolidated union structure have all been identified as factors that are likely to lower the cost of negotiating a multi-employer agreement (Deaton and Beaumont, 1980). The costs of administering a multi-employer agreement are also likely to be lower where the union structure is centralized. Any factor which creates a need for local flexibility will, in contrast, tend to increase both administration and negotiation costs and reduce the demand for multi-employer bargaining. These factors will include the existence of a local payment-by-results system and a high proportion of workers with distinct craft skills.

In terms of wage and price uncertainty and risk aversion, the last two elements of the demand function, it has been argued that reductions in the level of uncertainty about profits resulting from the standardization of labour costs under multi-employer bargaining is an important source of the demand by firms for such structures (Weber, 1967). This type of consideration is likely to be much more relevant for small firms than for large ones, however. As Hendricks and Kahn (1984) have argued, the smaller variance of wages and prices observed among large firms (a consequence partly of their greater visibility), combined with a generally lower level of risk aversion, make these firms less interested in multi-employer bargaining structures than small firms. A high level of concentration in the product market has been associated with lower wage and price variation, and, given its usual association with market power and higher profits, it has also been linked to lower risk aversion. High product market concentration is therefore likely to reduce the demand for multi-employer bargaining structures.

Empirical evidence suitable for testing the various hypotheses outlined above is available from two distinct sources: case studies and multivariate analyses.

## ***Case Studies***

Case studies inevitably lack the generality of more broadly based statistical analyses. They do, however, serve to highlight the importance of historical forces, institutional inertia, and the creation of vested interests

in determining bargaining structure (Deaton and Beaumont, 1980). The difficulty of capturing such factors in a regression equation, in turn, sets an obvious limit on the explanatory power of a purely statistical analysis.

Case studies have confirmed the importance of highly competitive product markets, strong union pressure in the labour market, and a high proportion of labour costs in value added as factors promoting multi-employer bargaining (Pierson, 1960). A high geographical concentration of the product market has also been found to have a positive influence on the formation of local employers' associations (Greenberg, 1966). All of these findings are consistent with the predominately single-union, single-contractor association structures found in the Canadian construction industry.

In an international context, Ingham (1974) has argued that a high degree of product and technological standardization has played an important role in promoting the formation of multi-employer bargaining structures in the Scandinavian economies. Ingham advances two reasons to support this argument. First, the producers of standardized products are more vulnerable to whipsawing activity on the part of powerful unions, since they risk losing a significant part of their market share if they experience a strike. Second, firms that have similar technologies and cost structures are also likely to have a strong similarity of interest, a fact which will serve to reduce negotiating costs among firms.

Ingham's thesis also appears applicable to Canada. For example, the Brewery Employers' Labour Relations Association was formed in British Columbia in 1978 in response to union whipsawing tactics. Similarly, the existence of employers' associations and multi-firm bargaining in the British Columbia forest products and pulp and paper industries appears to support the argument. Ingham's thesis has been criticized, however, for its failure to consider adequately the role of the state and the nature of the legislative framework. As Jackson and Sisson (1976) have argued, where employers can look to the state for anti-union legislation as a means of combatting union power, they have less need to give up their autonomy by forming a countervailing employers' association.

## ***Multivariate Studies***

Multivariate studies provide the most systematic evidence for testing the validity of the hypotheses outlined in Figure 4-2. Before considering this evidence, however, several weaknesses of the model illustrated here should be noted. First, even though they are tied into an overall framework of rational maximizing behaviour, most of the hypothesized determinants of the elements in the demand function are nevertheless ad hoc. Indeed, in many cases they derive from evidence provided in previous case studies. Second, the signs on all the variables in the demand function are ambiguous a priori, a fact which makes their interpretation

in the light of empirical evidence highly problematical. Third, in testing the model, considerable reliance must inevitably be placed on proxies, many of which are only imperfect measures of the theoretically important variables they are supposed to represent. Furthermore, as Figure 4-2 illustrates, many of these proxies are called upon to perform a multiple role. This makes their precise empirical significance especially difficult to interpret. Fourth, many of the variables identified in the model are likely to have a significant impact on the demand for multi-employer bargaining only when combined with other elements in the model, yet in empirical work no allowance has been made for the effects of such interaction. Finally, none of the multivariate analyses of the existing bargaining structure makes an adequate allowance for prevailing legal constraints, for organizational and political factors, or for the crucial importance of historical factors. In the context of the union demand for multi-employer bargaining, in particular, little recognition is given to the political constraints imposed on unions because they are representative organizations whose choices are ultimately subject to membership ratification, or to the possibility that leadership and membership interests may diverge in the short run.

Three multivariate studies provide evidence regarding the determinants of bargaining structure (Deaton and Beaumont, 1980; Hendricks and Kahn, 1982 and 1984). Though none of these studies uses Canadian data, their findings are nevertheless of interest. For the sake of brevity, their significant findings have been summarized in Table 4-6.

In their study of survey data on the British manufacturing industry, Deaton and Beaumont (DB) report that large establishment size, foreign ownership, high industry concentration, and the presence of local industrial relations specialists (an indication of management structure) are all associated with single-employer bargaining. High union density, spatial concentration and multi-unionism are associated with multi-employer structures. With the exception of the impact of multi-unionism, all of these findings would appear to be consistent with the Canadian data presented in the section on the structure of collective bargaining in Canada. The contrasting results with respect to multi-unionism, however, serve to highlight the dangers of making generalizations across national boundaries. In Canada, for example, the presence of more than one union is often associated with union fragmentation and weakness, and therefore with less interest in multi-employer structures. In Britain, by contrast, multi-unionism is often a sign of union strength and hence acts as a stimulus for creating such structures.

The findings of Deaton and Beaumont using British data are largely confirmed in a study of U.S. collective agreement data by Hendricks and Kahn (1982). Hendricks and Kahn's (HK) findings suggest that high industrial concentration, large plant size, moderate union density, and spatial dispersion all significantly increase the probability of a single-

**TABLE 4-6 The Economic Determinants of Bargaining Structure**

Variable	Type of Structure								
	Multi-Employer			Single Employer		Multi-Plant		Single Plant	
	DB	HK <sup>a</sup>	HK <sup>b</sup>	DB	HK <sup>a</sup>	DB	HK <sup>a</sup>	DB	HK <sup>a</sup>
Industry concentration			—	+	+				
Proportion of labour costs in total value added	+	+						—	
Geographical concentration of product market	+	+	+						
Establishment size			—	+	+	+	+		
Foreign ownership				+					
Union density	+		—			+			+
Multi-unionism	+		—						+
Locally based industrial relations specialists				+				+	

*Notes:* Inclusion criteria: variables significantly different from zero at 10 percent level or better.

DB: D.R. Deaton and P.B. Beaumont, "The Determinants of Bargaining Structure: Some Large Scale Survey Evidence from Britain," *British Journal of Industrial Relations* 18 (1980): 202-16.

HK<sup>a</sup>: W. Hendricks and L. Kahn, "The Determinants of Bargaining Structure in the United States Manufacturing Industries," *Industrial and Labour Relations Review* 35 (2) (1982): 181-95.

HK<sup>b</sup>: W. Hendricks and L. Kahn, "The Demand for Labor Market Structure: An Econometric Approach," *Journal of Labour Economics* 2 (3) (1984): 412-38.

firm agreement. Again, these findings appear consistent with Canadian data. The main difference between the British and the American studies relates to their findings on the impact of multi-unionism and high union density. In Britain these variables are associated with multi-employer bargaining, while in the United States they are associated with plant-level bargaining. One explanation for this contrast in findings is that the fragmentation and rivalry associated with multi-unionism in the United States has undermined the bargaining power usually associated with high union density, and that this has in turn reduced the demand for multi-employer bargaining structures. This situation, in fact, broadly describes that prevailing in the Canadian mining industry, where high union density and ideological rivalry among unions are associated with single-plant bargaining. This clearly emphasizes the importance of considering interaction effects among variables. Hendricks and Kahn explain the apparent paradox in findings by referring to the existence of sample biases. Their admission serves to draw attention to the fact that both multivariate studies contain serious statistical weaknesses. It also emphasizes the need for caution in interpreting the results.

Hendricks and Kahn's later (1984) study of bargaining structure is

based on the model of the demand for multi-employer bargaining outlined in Figure 4-2. The first stage in their empirical work consists of estimating the expected value of the wage differential between single-employer and multi-employer units for janitors and labourers using U.S. hourly wage data. After controlling for possible biases in their data, they report a positive wage differential of about 12 percent in favour of multi-employer units. Subsequent estimation of firm- and union-demand functions indicates, as predicted, that this differential has a negative impact on firm demand and a positive impact on union demand for multi-employer units. The results also confirm the earlier findings on bargaining structure by suggesting that large firm size and high or moderate market concentration reduce firm demand for multi-employer units. Local and regional product markets, on the other hand, seem to produce a higher demand for multi-employer units. As noted above, this is consistent with the structure observed in the Canadian construction industry, and with the relatively recent formation of an employers' association in the provincial brewing industry in British Columbia.

In terms of union demand, consolidation of their membership (i.e., a high percentage of their members in the largest union) seems to raise the demand for multi-firm units. Multi-unionism and moderate and high unionization are associated with a lower union demand for multi-employer units.

While all of the reported findings are plausible, thereby lending support to the usefulness of the approach in expanding our knowledge of a complex and poorly understood phenomenon, the authors have openly acknowledged serious statistical weaknesses in the reported results. Such problems are common to all the multivariate studies that have been undertaken to date.

What emerges most forcefully from the above analysis is the extreme complexity of all the factors — legal, organizational, political and economic — which interact to determine the bargaining structure. Even though the empirical findings are far from conclusive, it is clear that the bargaining structure is significantly constrained by a variety of environmental factors. Policy makers need to be clearly aware of these constraints before attempting any major reform.

## Consequences of Alternative Bargaining Structures

Discussion of the consequences of alternative bargaining structures tends to be characterized more by assertion than by systematic evidence. Frequently it amounts to little more than a listing of the pros and cons of greater centralization from the perspective of the various parties. Little indication is given of the probability of any given consequence occurring, or of its relative magnitude. This largely reflects the extreme paucity of hard data on the matter.

This section aims to bring together whatever hard evidence is avail-

able concerning the consequences of different bargaining structures in order to evaluate some of the arguments that are usually advanced on this issue. The discussion is grouped under four headings: the bargaining process, industrial conflict, wage and non-wage outcomes, and macro-economic adjustment. Admittedly, this division is somewhat arbitrary; however, it reflects a similar division in the empirical literature, which has tended to treat the consequences of different bargaining structures as independent and isolated events, rather than closely inter-related ones. This is a serious weakness. Any adverse consequences on the quality of the bargaining and representation process stemming from a change in bargaining structure are also likely to be reflected in the level of strike activity. Strikes, in turn, are the main device unions have for imposing costs on employers to obtain more advantageous wage settlements. These settlements will then have important implications for the macroeconomic adjustment process. Nevertheless, none of the econometric studies reviewed in the section adequately brings out these interconnections.

When considering the evidence, the reader should also bear in mind that bargaining structure is but one of the many determinants of the different outcomes considered. It is, moreover, often far from being the most important. In addition, the proxies used for capturing its significance in econometric work — usually simple dummy variables — are often inadequate. For these reasons the detailed case studies frequently offer more comprehensive and reliable data.

### ***The Bargaining Process***

Centralization is often seen as having largely negative consequences for the bargaining and representation process. These consequences include a reduction in the local flexibility and autonomy of both management and workers, and a restriction of the scope of worker participation. As a result, the workers may become alienated and frustrated, and hence less productive and more prone to both official and unofffficial strike action. Intraorganizational conflict is another probable result, making negotiations a more lengthy and more costly process. The less the number of separate negotiating rounds, the less the number of opportunities to strike. Still, when strikes do occur they are much larger and more disruptive. This, in turn, invites government intervention, which challenges the status of free collective bargaining and introduces a powerful political element into the proceedings.

The limited evidence that is available from case studies broadly supports this negative prognosis. Based on their investigations of the public service in Saskatchewan, Wetzel and Gallagher (1979, 1980) concluded that centralization generally slowed the bargaining process, producing longer negotiations. This was partly because of the need to consult with more people, and partly because of the greater visibility of settlements

and the reluctance to sign an agreement before other groups. Intra-organizational bargaining problems were also intensified. In addition, while negotiating skill and professionalism at the bargaining table increased, there was evidence of a lack of awareness among negotiators of the day-to-day operating problems at the workplace. For example, under the centralized agreements, local managers lost some flexibility in dealing with worker grievances and this caused problems in local labour-management relationships. These problems appeared to be compounded by the fact that local managers felt distanced from the collective bargaining process and therefore had less of a personal stake in the successful administration of the collective agreement. In their earlier study in 1979 Wetzel and Gallagher also reported that centralization appeared to narrow the range of issues discussed at the bargaining table.

Based on their study of a sample of public mass-transit organizations in the United States, Perry and Angle (1981) reported that centralization had equally negative consequences on worker participation. The authors discovered that members' evaluations of their union, as well as their perceived influence within it, were reduced by more centralized bargaining. But strike activity was also reduced, suggesting that members' lack of influence was not directly translated into overt conflict. In interpreting their results, however, Perry and Angle added that too many variables intervened between the bargaining unit structure and individual and organizational outcomes for the relationships to be conceptualized simply.

## *Industrial Conflict*

One of the more widely cited advantages of centralized bargaining arrangements is their presumed effectiveness in reducing strike activity. Several justifications for this view can be found in the literature. As a purely logical proposition, the smaller number of negotiations associated with consolidated bargaining obviously implies a reduction in the number of opportunities to strike. Of greater significance, however, is the fact that the joint costs of striking will be higher, thus discouraging both management and unions from using the strike weapon. Consolidation also reduces the risk of leap-frogging wage settlements and sequential strikes which can shut down an entire industry for extended periods — especially integrated industries such as air transportation, railroads, grain handling, shipping, and building construction. Reduced conflict levels may also derive from the increased professionalism that is often associated with consolidation and with the specialization and research that it allows.

Comparative analyses of international strike activity have also lent support to the view that centralized bargaining reduces the level of strike activity. As Table 4-7 illustrates, strike activity can be measured in several ways. Working days lost per thousand workers is the most

TABLE 4-7 Strike Characteristics and Bargaining Structure: Selected Countries, 1951-76

	Frequency <sup>a</sup>			Duration <sup>b</sup>			Size <sup>c</sup>			Days Lost per 1,000 Workers		
	1951-68		1969-76	1951-68		1969-76	1951-68		1969-76	1951-68		1969-76
<b>Highly Centralized</b>												
Austria	n.a.			2		1	n.a.			45		10
Norway	17		9	16		10	428			123		42
Sweden	5		18	19		10	295			29		50
<b>Centralized</b>												
Germany	n.a.		n.a.	6		5	n.a.			27		35
Netherlands	13		6	4		6	276			16		31
<b>Intermediate</b>												
Japan	22		57	4		3	1,240			696		107
<b>Decentralized</b>												
France	100		171			2				940		152
Italy	131		226			3				982		435
United Kingdom	96		112			3				443		443
United States	66		66			15				482		499
Canada	53		94			17				388		356
										700		894

Source: ILO, *Yearbook of Labour Statistics*; calculations by the author.

a. Number of strikes per million employed workers.

b. Working days lost divided by the number of strikes.

c. Workers involved divided by the number of strikes.

comprehensive measure and the one quoted most widely in international comparisons because it reflects variations in all three dimensions of strike activity: frequency, duration and size. Countries with low recorded levels of working days lost, such as Austria, Sweden, Germany, the Netherlands and to a lesser degree Norway, have all been cited as benefiting directly or indirectly from centralized bargaining structures. As the table illustrates, an important distinguishing feature of the countries with centralized and highly centralized bargaining structures is their low strike frequency. When strikes do occur under these systems, however, they can sometimes last for a long time and also be quite large. Strike activity can therefore still inflict significant damage on these economies.<sup>8</sup>

In Canada, strikes are of intermediate frequency and size, but they are typically longer than those of other countries. The table also shows that, measured in terms of working days lost, Canada experienced more deterioration between the periods 1951–68 and 1969–76 than did most other countries. This change reflected significant increases in both the frequency and the size of strikes. Detailed analysis of the reasons for the deterioration are beyond the scope of this paper; however, one factor contributing to the increase in the size of strikes was undoubtedly the growing importance of collective bargaining in the public sector. As the section on Canada's existing bargaining structure indicated, this sector of the economy already has a relatively high incidence of more centralized bargaining.

Before any firm conclusions can be drawn from foreign experience, it needs to be emphasized that the economies with low strike rates have a number of distinguishing characteristics other than centralized bargaining. These characteristics include highly developed welfare systems, high and stable levels of union membership, the widespread acceptance of unions by employers, and unions with significant political influence. These factors, it can be argued, have also contributed to low strike rates. One influential argument, put forward by Hibbs (1978), holds that a combination of factors — high union density, close links between labour and government, and centralized decision-making authority within unions — have reduced strike levels by transferring conflict over income distribution from the industrial to the political arena. As several writers have emphasized, these factors have to be considered as one element in an overall configuration rather than as independent variables with a distinct impact of their own (Ross and Hartman, 1960). Formal centralization of the level of bargaining alone may be neither a necessary nor a sufficient condition for low levels of strike activity.

Turning to the domestic evidence on strikes and bargaining structure, Swidinsky and Vanderkamp (1982) have analyzed the strike propensity of individual bargaining units containing more than 200 workers in Canadian manufacturing. Their analysis covers the period from 1965 to

1975. In contrast to earlier U.S. studies, Swidinsky and Vanderkamp's results point to a significantly lower strike propensity in single-plant units and a significantly higher propensity in single-employer multi-plant units, relative to industry-wide employers' association bargaining. From the Canadian evidence, it thus appears that a lower strike propensity in single-plant negotiations serves to counteract the effect of the larger number of strike opportunities that are associated with this structure. A major drawback of this type of multivariate study, however, is that it provides no clue as to why this might be the case.

If one considers only the evidence on the relationship between strikes and the bargaining unit structure, it appears that a movement either toward plant-level bargaining or toward employers' association bargaining would bring about a reduction in strike propensity. The authors also report, however, that larger bargaining units are significantly more strike prone. This finding has been likewise confirmed in a recent study by Gunderson, Kervin and Reid (1984) for bargaining units with 1,000 or more employees.

Based on these results, Swidinsky and Vanderkamp (1982) conclude that if the objective is to minimize strike propensity, then "labour boards should be urged to promote small, more decentralized units" (p. 465). As we have already noted, this is largely what labour boards already do, though not for the reasons advanced by Swidinsky and Vanderkamp. It is not clear, however, that the minimization of strike activity should necessarily be the overriding objective. It must be emphasized again that strikes are only one of the many outcomes influenced by bargaining structure, and all the outcomes are interrelated. Policy intervention inevitably involves tradeoffs among them. Thus a higher level of strike activity may be an acceptable outcome if it involves, say, more reasonable wage settlements and smoother macroeconomic adjustment.

A similarly partial approach to the analysis of bargaining outcomes is evident in the policy recommendations of Gunderson, Kervin and Reid (1984). While not expressed in such bold terms, the authors share a similarly negative view of the value of broader-based bargaining, at least as far as strikes are concerned. Though they acknowledge that consolidation which unifies bargaining units within establishments may be beneficial, especially where there are significant interdependencies in production, these authors, like Swidinsky and Vanderkamp, are sceptical of the value of unification across establishments or firms. This is based on the view that a higher propensity to strike in larger units would more than offset the effect of reduced strike opportunities, leading to a net increase in the number of working days lost.

It is, of course, possible that the number of working days lost could still fall even if strike propensity increases. This could occur if centralization were to bring a significant reduction in the length of stoppages. Given the higher joint costs associated with strikes under cen-

tralized bargaining, this is a distinct possibility. While no tests appear to have been conducted on the relationship between bargaining structure and strike duration, a significant negative relationship has been established between the size of the bargaining unit and the duration of strikes (Gunderson, Kervin and Reid, 1984). It is thus possible that the fragmentation in Canada's bargaining structure has been a contributing factor to our problem of lengthy strikes.

Turning to the case-study evidence, Rose (1980) concluded from his analysis of the construction industry that while the frequency of disputes declined during the 1970s following consolidation, strike volume (i.e., working days lost) increased dramatically. Although the 1970s marked a decade of generally increased strike activity, it was notably worse in the construction industry: its strike volume rose to three times the all-industry average. Moreover, this poor record was closely related to the expansion of bargaining units, with the number of workers per strike increasing fourfold during the decade. Centralization, therefore, led to an increase in working time lost rather than a decrease. According to Rose, those provinces in which structural change was greatest, namely British Columbia and Quebec, also had the worst construction strike records.

The evidence presented in two more recent studies suggests, however, that greater stability has returned to the construction industry in these provinces as broader-based bargaining has gained acceptance. In an independent study on mega-projects, commissioned by the Canadian Construction Association (1981), Weiler (p. 593) argues that after the turmoil of the 1970s the maturing of the systems has helped generate relative stability in recent years in British Columbia and Quebec. Strand (1984) reached similar conclusions in his analysis of the impact of multi-trade councils of unions on labour relations in building construction in British Columbia.

A much more negative assessment of centralization emerges from a recent study of public sector bargaining in Quebec (Hébert, 1982). On the one hand, bargaining between a common front of unions and management at the provincial level has eliminated the potential fragmentation of separate negotiations by twelve unions, five centrals and at least five separate management organizations. On the other hand, the "hyper-centralization" of the present system has not eliminated fragmented action in the form of wildcat strikes. Intraorganizational conflicts have arisen on both sides, and the distance between workers, local managers and the collective bargaining process has increased. Collective bargaining has also become an important political event. Moreover, strikes in every bargaining round since the early 1970s (amounting to over six million days not worked) have led to discussions of restrictions on the right to strike.

Finally, Stern and Anderson (1978) report that centralization had

undesirable consequences in their analysis of the 1975 postal strike. They observe that internal conflicts appeared to be a problem both during the negotiations and during the strike, resulting in fragmented action by some locals who refused to return to work even after an official settlement had been reached.

The results of the quantitative analyses of the impact of bargaining structure on strikes do not appear to be statistically robust (Swidinsky and Vanderkamp, 1982, p. 464), yet when they are combined with the case-study evidence they paint a less than optimistic picture of the general impact of centralization on working time lost. Nevertheless, some public policy experience, notably in British Columbia, does point to the value of consolidation in specific areas. The experience of consolidation through the formation of the "poly-party" certifications for the multiple unions in the shipyards in Vancouver in 1966, and subsequently through the creation of a union council by the B.C. Labour Relations Board on the B.C. Railroad in 1976, appears more favourable (Strand, 1984; Weiler, 1980). In the case of the B.C. Railroad, Strand concludes that the establishment of a union council was the most significant factor leading to a reduction in the frequency and length of work stoppages, as well as to their easier resolution. Nevertheless, he adds that the creation of the council was not in itself a sufficient condition, because a number of wage and compensation issues also had to be resolved (Strand, 1984, p. 116).

In conclusion, railways, shipyards and construction obviously represent interdependent strike-prone operations that have been historically characterized by craft fragmentation. In such operations, a strike by any one group can produce a total shut-down. These cases would seem to be the most promising area for selective intervention. As a general goal of public policy, however, centralization should in no sense be viewed as a panacea. Indeed, it may actually be detrimental to industrial peace.

### ***Wage and Non-Wage Bargaining Outcomes***

Unfortunately, there are no Canadian studies assessing the impact of bargaining structure on wage levels. There is, however, evidence from both the United Kingdom and the United States to suggest that wage rates are higher under plant and company bargaining than they are under more centralized multi-employer bargaining structures. In a study of British data, for example, Metcalf (1977) confirmed the results of earlier research by reporting a higher wage differential between unionized and non-unionized plants in industries where bargaining was decentralized. The unions, in other words, appeared to have greater bargaining power under decentralized bargaining arrangements. Further support for this proposition is provided by Thompson, Mulvey and Farbman (1977) who found relative earnings to be higher in industries with decentralized bargaining.

Findings of higher wage levels under decentralized bargaining have been reported for the United States by Hendricks (1975).<sup>9</sup> He also found, however, that local multi-employer units had higher wage levels than other bargaining units, whether plant level, company-wide or industry-wide. One explanation for this finding holds that unions derive power by organizing local areas into a single unit, as is often the case in the construction industry. While this may be true for the United States, such an explanation does not seem to be universally applicable to Canada. In this country it has typically been the employers who have sought accreditation to form local multi-employer units. Canadian employers, in other words, seem to believe that local multi-employer structures provide them with more power, not less.

A subsequent American study has in fact questioned Hendricks's results on the wage impact of local multi-employer bargaining. In a more broadly based analysis of bargaining outcomes in two-digit industries, Kochan and Block (1977) found strong positive association between favourable bargaining outcomes for the union and the percentage of contracts in single-plant and single-firm bargaining units. Outcomes favourable to the union included pay supplements, fringe benefits and equity provisions. In contrast, less favourable results, from the union's point of view, were observed in those industries in which a relatively high percentage of contracts were negotiated in local or industry-wide employers' associations.

More recently, the general consensus that wages are higher under single-plant and single-employer bargaining than they are under more centralized bargaining has been disputed. In a study of U.S. contract data designed to estimate the determinants of and tradeoffs between wage and non-wage bargaining outcomes, Feuille, Hendricks and Kahn (1981) found that multi-employer agreements actually had significantly higher wages than single-plant or company-wide agreements. Non-monetary issues fared much worse under multi-employer agreements, suggesting a possible tradeoff between wage and non-wage issues. Higher wages may have been paid, in other words, to gain flexibility and to avoid restrictive work rules. This conclusion is, however, speculative. The most recent evidence on the impact of bargaining structure on wages is reported in Hendricks and Kahn's (1984) analysis of the economic determinants of bargaining structure, which was discussed in a different context in the last section. This study also contradicts earlier findings by linking multi-employer bargaining to higher wages.

While no Canadian studies have looked at how the bargaining structure affects wage levels, one study has nevertheless examined how the structure of collective bargaining affects negotiated wage settlements (Swidinsky, 1981).<sup>10</sup> Swidinsky's results are based on data derived from collective agreements for bargaining units covering 200 or more workers. They suggest that settlements negotiated through multi-plant and

local multi-employer units are about one percent lower than those negotiated through single-plant units and employers' associations. Construction industry settlements and those containing cost-of-living adjustment (COLA) provisions were excluded from the study.

Additional Canadian evidence is presented by Rose (1980) in a detailed case study which examined the impact of the centralization of collective bargaining on the construction industry. An important virtue of this work is its attempt to explore systematically all of the interrelated consequences of the industry's move toward greater centralization, rather than simply dealing with wage and non-wage outcomes.

As Rose points out, the historic pattern of bargaining in construction was highly fragmented, since most collective agreements were negotiated between single craft unions and individual employers. The determination of the bargaining unit was typically based on such criteria as historic arrangements, union jurisdiction, and employee wishes, all of which favoured narrow units. Where multi-employer bargaining did occur, it was often unstable. In response to the problems of the industry, which were reflected in the escalating conflict and inflationary wage settlements, several provincial governments introduced accreditation legislation during the late 1960s to facilitate the creation of a countervailing power on the side of employers. Following this consolidation, construction wages, like those of other industries, increased more rapidly during the 1970s than they had during the mid- and late 1960s. Nevertheless, Rose argues that construction wages were more in line with those of other industries during this period than they had been previously, suggesting that broader-based bargaining did have some effect on moderating wage increases even in the face of strong demands. Rose also maintains that centralized bargaining in this industry has been associated with more stable wage hierarchies, and with across-the-board wage settlements that apparently have reduced leap-frogging among the different construction trades.

To summarize briefly this conflicting evidence: until recently it was assumed that multi-employer bargaining was associated with lower wage levels than plant-level or single-employer bargaining. While the early evidence was largely consistent with this assumption, two recent studies of American data now bring it into question. Since it is extremely difficult to separate empirically the influence of bargaining structure from other influences on wages, it is hazardous to base firm general conclusions on either sets of findings alone, especially since none of the studies uses Canadian data. Case studies provide an important additional source of evidence, though their findings are less general. In Canada, case-study evidence tends to support the idea that the consolidation of employers into more centralized bargaining structures has a restraining effect on wages, even when such consolidation is only local in scope.

One additional aspect of the collective bargaining relationship that must be considered in relation to bargaining structure is adaptation to technological change. It is generally accepted that bargaining fragmentation, especially that based upon narrowly defined craft units, inhibits such change. Problems of adaptation have been particularly acute in the railroad, printing and construction industries. Extreme, historically entrenched craft fragmentation in these industries has produced a poor match between union structure, bargaining structures and technical change. New technical developments frequently cross established lines of job demarcation. The problem is not merely one of decentralization, however. Narrow centralized units pose equally acute adaptation problems; at the same time they sacrifice the benefits of a local community of interest and a sensitivity to local issues.

Bargaining relationships based on industrial unionism help overcome many of the problems of fragmentation, even when these relationships are decentralized. From the point of view of technological change, however, the optimal structure would seem to be enterprise-level bargaining based upon enterprise unionism, as in Japan. A major benefit of this structure is its fostering of a union organizational identity that is not totally distinct from that of the firm.

### ***Macroeconomic Adjustment***

Some policy makers have expressed interest in the structural reform of collective bargaining in order to help the objectives of a stabilization policy. Under the present system of decentralized bargaining and overlapping long-term contracts, a high degree of inflation inertia is built into the wage-bargaining process. This greatly increases the unemployment cost of a tight monetary policy.

The existence of long-term wage agreements implies that current wage payments will reflect past economic conditions instead of present conditions. Thus, while an external inflationary shock may take longer to enter the collective bargaining system, it will also take longer to leave. The problem is further compounded if agreements overlap. Concern over relative wages will lead unions to demand settlements that follow those obtained earlier by their usual reference groups, rather than those appropriate to prevailing labour market conditions, inflation expectations, and economic policy. Finally, where wage decisions are decentralized and uncoordinated, bargainers rightly fear that they will suffer declines in both their real and relative wage positions if they accept a restrained settlement, since they have no guarantee that other units will behave with similar restraint. Through the combined effect of these factors, the burden of adjusting to domestic restraint policies falls disproportionately on output and employment, and has only a limited immediate influence in reducing inflation.

The solution is to find some way of coordinating individual bargaining decisions on wages, while at the same time making them more responsive to current economic conditions. One possibility is structural reform to promote a more centralized and more synchronized annual bargaining round. In principle, this could produce an institutional framework that allows for greater wage flexibility than the present system, enabling bargainers to see more easily how their actions influence the macro-economy. Another possibility is a form of incomes policy. In practice, of course, these solutions are not necessarily mutually exclusive. Centralized bargaining arrangements are often viewed as conducive to the kind of tripartite consultations on which an incomes policy is ideally based (Economic Council of Canada, 1966).

Evaluating whether this argument is relevant to Canada entails addressing two issues. First, it is necessary to assess whether our collective bargaining system in fact shows significant wage inertia. Second, it is necessary to assess whether this inertia could be reduced simply by reforming the structure of collective bargaining.

The issue of nominal wage inertia has been addressed by several authors (Sachs, 1979; Branson and Rotemburg, 1980; Taylor, 1980; Gordon, 1982). Their general conclusion is that such inertia is more pronounced in North America than in countries like Japan, where wage agreements are short and synchronized, or Britain, where they are of short duration and unsynchronized. The evidence for significant wage inertia does, however, appear stronger for the United States than for Canada. With U.S. data, for example, Sachs (1979) finds that lagged wages have a strong and significant influence on current nominal wage inflation. At the same time, the impact of labour market conditions is small, and the price expectations term is significantly less than unity. In Canada, however, both the lagged nominal wage term and unemployment are insignificant, while the coefficient on the price expectations term is both significant and close to one. Thus, although Canadian nominal wages demonstrate a greater degree of inertia than is the case in countries like Britain and Japan, they appear more responsive to inflation expectations than do American nominal wages.

Table 4-8, based on the work of Gordon (1982) and Riddell (1983), helps to put Canada's experience in perspective. As the first row of the table illustrates, the variability of changes in hourly earnings is significantly greater here than in the United States. Still, it is significantly less than that in either Britain or Japan. Interpreting these figures, however, should be done carefully since during part of the period covered by the table, nominal wage setting in Britain, the United States and Canada was influenced by some form of wage controls. In Britain this intervention had a particularly dramatic impact. The growth of average weekly earnings declined from 23.4 percent in 1975 to 8.6 percent in 1977, before climbing back to 20.7 percent in 1980 following the policy's breakdown.

**TABLE 4-8 Variability of Percentage Changes in Hourly Earnings, Hours, and Employment in Manufacturing**

	Canada	U.S.	U.K.	Japan
Hourly Earnings (w)	3.40	1.69	5.29	4.84
Hours per Week (h)	1.16	1.09	1.74	1.98
Employment (e)	3.11	4.05	2.18	2.03
Wage Bill (w + h + e)	3.57	3.82	4.35	4.97
Ratio (w/e)	1.09	0.42	2.43	2.38

*Sources:* Observations for United States, United Kingdom and Japan from R.J. Gordon, "Why U.S. Wage and Employment Differs from that in Britain and Japan," *Economic Journal* 92 (March 1982): 13-44; those for Canada from W.C. Riddell, "The Responsiveness of Wage Settlements in Canada and Economic Policy," *Canadian Public Policy* 9 (March 1983): 9-23.

*Notes:* All percentage changes are measured as four-quarter overlapping annual changes. Data are quarterly, 1963 Q1 to 1980 Q3.

While the impact of the controls program in Canada was clearly not as dramatic, it is still likely that the figures in Table 4-8 reflect an overestimate of the degree of "natural" downward flexibility in the system.

Sluggish nominal wage adjustment to a declining inflation rate also implies that real wages will be maintained at too high a level, causing more of the adjustment burden to fall on output and employment. Thus, one might also expect to find greater variability in employment in Canada and the United States than in countries where nominal wages are more flexible. Again the figures in Table 4-8 confirm this to be the case.

While it is possible to conclude on the basis of the evidence presented above that Canada's wage-bargaining system does indeed suffer from nominal wage inertia, especially in a downward direction, it is less clear whether reform to promote more centralized bargaining would necessarily help eliminate this inertia. Some insight into this matter can, however, be gained by examining the experience of countries in which nominal wages have been more flexible, to assess the extent to which this flexibility can be attributed to the structure of their wage-bargaining institutions. In this connection, Japan and Germany have often been singled out as examples of countries with responsive wage-bargaining systems. Despite substantial institutional differences, both countries have collective bargaining systems that allow for synchronized, annual wage setting.

Japan's performance in particular provides excellent testimony to the benefits of an annual wage round and synchronized wage setting (both elements of wage setting under Shunto). To assume, however, that Canada could reap similar benefits simply by reforming its institutional framework is absurdly deterministic. A closer examination of the Japanese experience indicates that wage flexibility is not simply a function of that country's institutions (including its bargaining structure, which is in fact decentralized). It is also a function of bargaining behaviour. The

latter, moreover, is not mechanically determined by the former. This point is well illustrated by the fact that the Japanese wage response to the first and second oil shocks differed substantially. A rapid and dramatic upward adjustment in nominal compensation growth followed the first oil shock, which took wage settlements to over 30 percent. This then gave way to extreme moderation following the second, larger shock. What changed was not the institutional structure, but rather the behavioural responses that were considered appropriate by the negotiating parties. Thus, following the second shock, Japan's enterprise unions were collectively much more aware of the economy's vulnerability, and hence the need for nominal wage moderation. This, in turn, led to the further intensification of the system of information-sharing during wage bargaining (Shimada, 1983). Therefore, institutional change evolved from the behaviour of the parties to collective bargaining, rather than the other way around. Whether the same awareness could be generated among Canadian unions is, of course, much more doubtful. In any event, the simple act of centralizing bargaining structure is unlikely to bring about more cooperative or more restraining wage behaviour.

Even a highly flexible wage-setting system can easily be undermined if wage bargainers fail to adjust their expectations about inflation to changing conditions. If inflation expectations fail to respond, wage adjustment will also be slow, regardless of the institutional environment. What happened to German wages over the period 1974–75 is a good illustration of this point. Annual industry-wide bargaining, coordinated under Concurred Action, afforded potential flexibility, and yet German compensation growth still failed to adjust to changing labour market conditions and projections of monetary restraint on the part of the central bank. It responded, instead, to excessively high expectations regarding inflation. As a result, unemployment substantially increased. Subsequently, the economic rationality of German unions did allow rapid adjustment to this wage overshooting, which led, in turn, to substantially lower settlements in 1975 and 1976. As this episode makes clear, wage-bargaining arrangements that are both centralized and coordinated do not guarantee wage behaviour that is consistent or appropriate. In both Germany and Japan the main cause of restraint has been the consensual attitude and behaviour of the trade unions. Prevailing bargaining arrangements provided a framework within which this consensus can operate, but they did not create it.

In conclusion, although the removal of downward wage inertia is a desirable goal from the standpoint of public policy, there is no guarantee that it can be achieved simply by centralizing the bargaining structure. Other reforms, such as short-term contracts or synchronized bargaining, might help remove some of the institutional impediments to wage flexibility; however, neither reform necessarily requires more centralized bargaining. As with all policy choices, care must also be taken to

include all the likely costs and benefits of change. For example, if the present system of long-term contracts emerged as an attempt to economize on negotiating costs, especially strike costs, moving toward short-term contracts may increase the potential for wage flexibility — but only at considerable expense to bargainers.

## Recommendations for Public Policy

The structure of the bargaining unit is an important factor shaping the creation, the process, and the outcome of collective bargaining. What a labour relations board initially decides regarding the appropriate bargaining unit can affect whether the unit is likely to be certified and therefore whether the workers will gain collective bargaining rights. At the same time, the board's decision concerning the appropriate scope of the unit influences the employer's ability to resist unionization. It can also influence which union, if any, is likely to be successful in organizing workers; the extent of industrial democracy that will be afforded to workers; and the potential for intraorganizational conflict on the side of unions and management. The choice of bargaining structure also has important implications in terms of power, which may influence the outcome of the bargaining process, including such variables as wage settlements and strikes. In addition, the bargaining structure is one element of the institutional framework through which the economy in general, and wages in particular, adjust to internal and external shocks. For all these reasons, the bargaining structure has become an important focus of interest and a potential instrument of public policy.

The formal bargaining structure in Canada is highly decentralized. Bargaining is typically confined to a single union and a single employer. This pattern of decentralization is also reflected in the legislative framework of Canadian industrial relations. Since about 90 percent of workers fall under provincial jurisdictions, creating national units or interprovincial units outside such areas as transport and communications, which fall under the federal jurisdiction, would be problematical even if it were deemed desirable. Informal linkages across units and firms, as well as across industry and provincial boundaries, do, however, mean that the *de facto* bargaining structure is rather less fragmented than is often supposed. Nevertheless, public policy makers continue to be extremely interested in promoting the more formal consolidation of Canada's collective bargaining structure. One of the most frequently cited goals is to reduce strike activity. But other presumed benefits include making wages more responsive to changing economic conditions, injecting greater stability and professionalism into labour-management relations, and facilitating tripartite consultation.

This interest in consolidating bargaining structures is not new. Two major public commissions of inquiry addressed the issue in the late

1970s. In 1976 the Report of the Industrial Inquiry Commission into Bargaining Patterns in the Construction Industry in Ontario (the Franks Commission) recommended province-wide bargaining by trade and coordinated bargaining between trades by means of common termination dates for collective agreements. Both recommendations were enacted in legislation in 1977; however, Ontario law still discourages the horizontal integration of bargaining structure through multi-trade negotiations. Reporting in 1978, the Inquiry Commission on Wider-Based Collective Bargaining (Bairstow, Dubinsky and Smith, 1978) also noted the benefits of consolidating bargaining structures in the federal jurisdiction in transportation, grain handling and communications. They concluded that the multiplicity of bargaining units in these sectors was undesirable and unnecessary, but argued, nevertheless, that to be effective, structural rearrangements related to wider-based bargaining should be voluntary and follow an evolutionary course.

An equally cautious approach to structural reform is suggested by this study. The bargaining structure is an intervening variable in the collective bargaining system. Policy choices are therefore constrained by the need to match that structure to the environmental and organizational conditions in which negotiations take place. This makes structural change an extremely blunt policy instrument. As Figure 4-1 illustrated, the many factors which interact to determine bargaining structure, and the multiple consequences that flow from that structure, make the task of predicting the full impact of a policy-induced change extremely difficult. This is clearly reflected by the ambiguity which surrounds the evidence on both the determinants and the consequences of Canada's bargaining structure presented earlier. Given this ambiguity, it appears appropriate to conclude that a widespread movement toward more centralized bargaining offers no certain benefits in terms of either reduced industrial conflict or improved labour-management relations. Indeed, what limited evidence is available from case studies suggests that centralization might actually reduce local flexibility and the scope for the active participation of workers.

The benefits for macroeconomic performance and improved macro-economic adjustment are also uncertain. One element in favour of further centralization is that it would lead to improved performance by facilitating the emergence of tripartite mechanisms and cooperative wage policies. However, the scope for effective tripartite consultation would be limited because of the absence of a single labour body or a central management body with the power to commit its respective constituents to a mutually agreed policy. This, of course, is a variation on the argument that organizational and decision-making structures of unions and management must match bargaining structures. Such a match would make change in any one structure problematical. The distrust between the parties is a further limiting factor. Widespread

government tinkering with prevailing structures is more likely to exacerbate the distrust than dispel it.

To reject widespread reform, however, is not to deny the value of public policy intervention in specific cases. This at least seems to be the lesson from the evidence in British Columbia, which has a unique mechanism, the only one of its kind in North America, through which bargaining structure can be changed. This mechanism makes possible the creation of union councils as an act of public policy. The important analytical task here is to specify the conditions under which the imposition of a council is a necessary or sufficient condition for improving the climate of labour relations. The answer seems to lie in strike-prone, integrated operations historically characterized by craft fragmentation. Even in these cases, consolidation may nevertheless involve a substantial transitional period of heightened conflict. This seems to be what emerges from the analyses of the construction industry. Thus where fragmented industries are not highly strike prone, which is generally true of the airlines, externally imposed consolidation may actually make things worse.

From the perspective of public policy, a key recommendation is that other jurisdictions be encouraged to follow the British Columbia example in allowing for the creation of union councils at the discretion of the Labour Relations Board. Such a reform would also help resolve the dilemma faced by labour relations boards when choosing the appropriate bargaining unit. In particular, boards could plan an initial emphasis on the goal of providing representation; in the event that this ultimately produces a negotiating structure that is deemed to be too fragmented, the board could then rationalize the structure through the formation of councils.

On the side of employers, accreditation legislation (the equivalent of certification for employers) provides a legal basis for the development of a common front vis-à-vis the unions, preventing them from singling out an individual employer. The value of such legislation lies in eliminating the legal uncertainties which characterize voluntary multi-employer bargaining. Again British Columbia provides a pattern which other jurisdictions could usefully follow: unlike them, it allows accreditation of employers' associations in any industry rather than simply in construction.

Beyond these changes, however, allowing consolidation to be based on voluntary agreement preserves an important degree of flexibility within the collective bargaining system. This flexibility enables it to adapt to changing circumstances.

## Notes

This study was completed in December 1984.

1. Psutka's analysis, which utilizes the 2,159 collective agreements on file with Labour Canada covering 200 or more workers, is the most up-to-date, comprehensive and thorough of several on Canada's bargaining structure (Christy, 1969; Anderson, 1982; Craig, 1983). In contrast to the recent analyses by Anderson (1982) and Craig (1983), Psutka's data is based on a detailed analysis of the total number of agreements in effect, rather than on collective agreement settlements for specific years. Psutka also presents a more detailed industrial breakdown than previous studies, as well as carefully compiled data on joint bargaining units.
2. Data reported by Rose (1980) for 1977 indicates that out of 414 construction agreements in effect, 386 (93 percent) were between a single union and a single contractor association while only 16 (4 percent) were between a single union and an individual contractor. Approximately 54 percent of the agreements were regional in scope and 24 percent provincial. Most (80 percent) collective agreements also covered a single sector, of which building (industrial, commercial and institutional construction) was the largest. To quote Rose, "In summary, collective bargaining is decentralized by trade, sector and geographical area. The typical collective agreement is negotiated between a single craft local and a single contractor association, is confined to one sector and is either local, metropolitan or regional in scope."
3. For more details see Psutka (1983), Appendix A.
4. This bargaining structure will obviously be strongly influenced by industrial structure, since many of these relationships will be based on single-plant firms. Unfortunately, data limitations preclude a more detailed analysis of the issue.
5. As defined by Statistics Canada, "forestry" excludes the major forest products companies on the West Coast. These companies, which bargain on a multi-employer basis, are classified under "manufacturing," reflecting their vertically integrated character.
6. This contrasts with the situation in the United States, where the National Labor Relations Board has the legal authority to delineate the bargaining units coverage, but will not impose a multi-employer unit if either of the negotiating parties objects.
7. "Whipsawing" refers to the union tactic of striking one firm in an industry to obtain a good agreement, and then using this agreement as a benchmark in dealing with other employers.
8. As a postscript to Table 4-7, over the period 1978-80 working days lost per 1,000 employed persons averaged 363 in Sweden compared with only 119 in France and 357 in the United States. In Japan, classed as having an intermediate level of centralization in Table 4-7 because of the coordination of wage decisions by individual enterprise unions under the Spring Wage Offensive, working days lost per thousand dropped to only 20. Cooperation among the unions and with the government, which increased substantially following the oil strike figure for the period 1978-80, was 780 working days lost per 1,000, lower than the comparable figure for 1969-76 but still high by international standards.
9. Hendricks includes dummy variables for plant-level bargaining, local multi-employer bargaining, and industry-wide bargaining in a series of occupational wage-level equations. Coefficients on the bargaining unit variables thus measure the difference between the mean wage level of firms in that unit and those in multi-plant/firm-wide units after controlling for other variables. These include industry concentration, industry unionization, firm size, the proportion of labour costs in total costs, local unionization and competitive wage rates.
10. The impact of bargaining structure is estimated by adding dummy variables to a wage-settlements equation which includes a regionalized help-wanted index; price expectations, price catch-up and wage spillover terms; industry union density; and a set of industry-specific dummy variables.

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## Public Sector Wage Compensation

DAVID A. WILTON

The federal government in 1967 introduced the Public Service Staff Relations Act, which permitted approximately 165,000 employees of the federal government and its agencies to bargain collectively. While Saskatchewan and Quebec had already extended collective bargaining to their provincial employees, this important new act by the federal government spurred the remaining provinces to extend collective bargaining to their public sector employees. This rapid spread of public sector collective bargaining in the late 1960s coincided with a period of rapid growth in public sector employment and with a conscious effort by government to upgrade the level of staff performance, all of which combined to increase wage levels for public sector employees.

Few economic issues have aroused greater concern among private sector employers and the general public than the size of wage increases granted to public sector employees. The Economic Council of Canada (1966, p. 132) gave early warning that large wage settlements for high-profile public sector employees, such as the Seaway workers, could have an inflationary impact on wage settlements in the private sector. Many analysts have attributed much of the wage explosion of the early 1970s, which culminated in the imposition of economy-wide wage and price controls in 1975 under the direction of the Anti-Inflation Board (AIB), to the spillover effects from overly generous public sector wage settlements. For example, Courchene (1976, p. 77), commenting on the wage crisis of 1975 states:

While the wage demands were obviously not independent of the four previous years of monetary excess, it is also undoubtedly the case that recent wage and fringe benefit patterns in the public sector played a major role in heightening wage expectations in the private sector as well as in other areas of the public sector.

In more recent years we have seen the repeated use of public sector wage controls programs by the federal government (the “6-and-5” program of 1982–83) and various provincial governments in attempts to restrain government expenditures and to limit the size of the deficit. Again, public sector wages have been singled out for special attention.

The major objective of this paper is to analyze the size and structure of public sector wage settlements in comparison with private sector wage settlements. Are public sector wage settlements determined in a different manner from those in the private sector? After examining the economic arguments for and against the proposition that traditional labour market theory cannot be used to explain public sector wage increases, the Canadian literature and empirical evidence pertaining to differences in wage settlements between the private and public sectors are reviewed. For example, have wage settlements in the public sector been systematically higher than wage settlements in the private sector? Do public sector wage settlements differ from wage settlements in the private sector with respect to their sensitivity to labour market forces and inflation? Finally, the paper reviews the empirical evidence on wage spillovers from the public sector into the private sector.

## Structure of Wage Settlements

Conventional wisdom holds that traditional wage theory cannot be used to explain public sector wage determination. Fogel and Lewin (1974, p. 414) cite the “absence of a motive for profit maximization in government and the related lack of a conventional demand curve for labour” as the two major weaknesses in attempting to apply traditional wage theory to the public sector. In their American study, Fogel and Lewin argue that an explanation of public sector wages should place less emphasis on economic variables and more emphasis on the “political process” through which public sector wage changes evolve. Indeed, there appears to be a fairly widespread belief that political factors may play the crucial role in public sector wage negotiations, possibly even negating traditional market forces. Moreover, if there are thought to be wage links between sectors, “non-economic” wage settlements in the public sector may “spill over” into the private sector and permeate throughout the whole economy (regardless of the state of the labour market). Such reasoning easily leads to the conclusion that “generous wage agreements in the public sector have forced private industry to pay more than the market can bear.”<sup>1</sup>

In a monograph prepared for the Economic Council of Canada, Cousineau and Lacroix (1977) argue that, in comparison with private sector wage increases, public sector wage increases are less responsive to labour market conditions and are more responsive to anticipated inflation. The first part of their argument harks back to the early work of

Fogel and Lewin (1974), Ehrenberg (1973)<sup>2</sup> and Hall (1975),<sup>3</sup> when they state:

The production of goods and services in the public sector does not generally depend, as it does in the private sector, on demand in a competitive market where market price prevails. Demand here is perceived through a political mechanism, and the effectiveness with which it is satisfied is not determined by market behaviour. The frequent absence of prices (but not costs) for the goods and services produced by the public sector thus makes possible a certain margin for discretion in the wages and wage increases governments can grant in order to recruit and retain the workers they need to produce the goods they consider essential for improving the welfare of citizens. This means that, at a certain point, the demand for labour will become relatively inelastic if the financial constraints on public spending are weak. Given the taxation power and borrowing ability of governments, one can suppose that this latter condition would frequently prevail. . . . New [public sector] unions were thus faced with an employer whose demand for labour was probably the most inelastic in the economy, who was in a better position to redistribute income than any economic agent in the private sector, who wished to increase its own importance in the economy and finally, whose decisions were not subject to market sanction. . . . In fact, unionization in this sector made it possible for government workers to exploit the very special character of its demand for labour . . . to reduce the responsiveness of wages to labour market conditions. (pp. 42–46)

Their belief that public sector wage changes are much more responsive to anticipated inflation than private sector wage changes is based on the fact that the elasticity of income tax revenues with respect to inflation exceeds unity, which was certainly the case before the 1974 indexation of the Canadian income tax system. With a highly elastic tax revenue function, “the constraints on the public sector are less stringent than those on the private sector [and] we can expect that wage agreements signed in the public sector will be more responsive to anticipated inflation” (p. 47).

As Gunderson (1982) points out, there are, however, “countervailing forces to constrain public sector settlements and such forces tend to be less emphasized by practitioners, academics, the media and the public at large, perhaps because these countervailing forces are more subtle and tend to operate more in the long run than the immediate time period” (p. 2.12). First, public sector employers must compete with private sector employers to attract additional workers. In a state of general expansion, governments have to increase wages to attract and retain workers. If many job vacancies exist throughout the economy and if public sector wages are not responsive to labour market conditions, then governments will experience a relative decline in their own work force. Those who argue that “public sector wages are less responsive to labour market conditions” are thinking only of what happens during cyclical

downswings. However, most of the Canadian evidence on the responsiveness of public sector wages, including that presented by Cousineau and Lacroix, is drawn from the expansionary 1967–75 period when the Canadian growth rate averaged 4.5 percent and the unemployment rate averaged only 5.4 percent. Hence, an empirical finding that public sector wages have been unresponsive to (expansionary) labour market conditions could be interpreted as evidence of public sector wage moderation, because public sector wages did not increase as quickly as private sector wages. Nevertheless, Gunderson (1982) argues that:

In spite of the fact that the basic underlying forces and institutional features can provide a downward as well as upward bias to public sector wages, they are likely to be more operative in providing an upward bias. This occurs because the basic forces of competition are more likely to provide a floor on public sector wages because of recruiting needs; these same competitive forces need not provide a ceiling because they can be ignored by the political authorities if they choose to pay excessive wages. In essence, the potential for wages to be greater in the public or private sector hinges on whether the constraints of the political market place are as binding as the profit constraint of the private market. (pp. 2.12–2.13)

Second, during a cyclical downswing, governments face additional financial and/or political pressures. Given the many automatic stabilizing features in our economy, for example, the progressive income tax system and unemployment insurance, the size of the government deficit will disproportionately increase as the recession deepens. As governments have become increasingly concerned about the size of government deficits over the past ten years, public sector employers may have become even more “restraint-minded” in recessionary periods when their deficits are (cyclically) mushrooming in size. Faced with income-elastic tax revenues on the downside, governments operating in the “political market place” may take an even harder line in bargaining with their employees or may resort to various wage restraint packages, such as the “6-and-5” program.

Finally, the argument that public sector wages are more responsive to expected inflation, because of the elasticity of tax revenues with respect to inflation, loses most of its force with the indexation of the income tax system starting in 1974. Furthermore, given the inflationary bias in the size of the measured government deficit (attributable to the inflation premium in interest costs on the public debt), higher expected inflation rates will be accompanied by larger measured government deficits, all other things being equal. To the extent that governments respond to an increase in the size of the measured government deficit with greater fiscal restraint, higher inflation rates might lead to lower real wages in the public sector.

With increasing attention given to the size of the government deficit,

public sector wages are particularly vulnerable (in Gunderson's words, "the public sector may not be 'the place to be' in the future"). Prevailing public opinion undoubtedly singles out public sector wage costs as a major component of the deficit. If public sector wages are thought to be too high or if public sector wage increases are thought to spill over into the private sector, fiscal restraint will likely target on public sector wage increases. In fact, many other components of the government budget may be contractually fixed or politically non-discretionary, such as various social and entitlement programs, leaving public sector wage costs as one of the few possible instruments with which to cut the size of the government deficit. Given the large government deficits associated with an inflationary but recession-prone economy, it is an open question whether the lack of a profit motive in the government sector has been more than offset by the perceived "political" need for increased government fiscal restraint, in its various forms, from Victoria to St. John's.

Most of the issues raised above are empirical. Obviously, if public sector wage increases are overly "generous" or "out of line," a comparison of private and public sector wage settlements should reveal the extent of this problem. If public sector wage settlements are "running out of control" and/or are determined by "political processes," either one of the following two results may be found when the wage settlement structure in the public sector is compared with that found in the private sector. The theoretical labour market model which explains private sector wage changes would be statistically insignificant in explaining public sector wage changes (that is, a different set of "political," non-market explanatory variables is required to explain public sector wage increases). Or, the coefficients for the labour market explanatory variables would be radically different in the public sector than in the private sector. With respect to this second point, Cousineau and Lacroix's hypothesis that public sector wage increases are much less responsive to labour market conditions would be confirmed by lower labour market coefficients in the public sector wage change equation than in the private sector wage change equation. Moreover, the existence of public sector wage spillovers into the private sector would be confirmed by a statistically significant public sector wage spillover variable in an equation describing the structure of private sector wage increases. These empirical issues will be explored in the remaining sections of this paper.

As implied in the previous paragraph, the review of the literature and empirical evidence focusses on the size and structure of wage rate changes through time in both the private and public sectors, rather than on the differential between private and public sector wage levels at one particular point in time. In a recent paper, Gunderson (1982) surveys the literature on public-private sector wage level differentials.<sup>4</sup> With respect to occupational wage level differentials in Canada, Gunderson finds:

[T]he ratio of public to private sector wages tends to reach its maximum value during the later part of the sample period (i.e., in the 1960's or 1970's) and thereafter it falls. Also, the calculated public/private sector wage ratio in the year of its maximum value is not tremendously large even at its *maximum* expected value (averaging 1.10 for those cities where the maximum value was reached in the sample period). In addition, the overall *average* ratio of public/private sector wages for the full sample period 1952–1980 was 1.03. (p. 3.4)

Besides investigating occupational wage level differentials between the public and private sectors, a number of researchers analyze wage level differentials among individuals employed within the private and public sectors, controlling for differences in education, training, experience, and so on. Using the 1971 Canadian census, Gunderson (1979, p. 228) concludes:

[T]he pure surplus or economic rent that public sector workers received relative to their private sector counterparts was \$492, or 6.2%, for males and \$383, or 8.6%, for females. The public sector wage advantage was larger for low-wage workers, illustrating the basic dilemma that policies to curb the advantage may conflict with the desire to raise the wages of low-wage workers and achieve equal pay for equal work between males and females.

Unfortunately, census data do not contain information on individual union status and it is therefore possible that these public sector rents may simply reflect union differentials. In a more recent paper, Robinson and Tomes (1984), using a smaller data set which contains information on union status (the 1979 Social Change in Canada Survey) and more sophisticated econometric techniques, find:

Controlling for union status there is little evidence of public sector rents. However, because of the high proportion of unionized workers in the public sector, a substantial positive premium is estimated when union status is not controlled for. This provides evidence for the hypothesis that recently estimated rents accruing to public sector workers are in fact union differentials. (p. 108)

For a further discussion of the literature on private-public sector wage level differentials see Gunderson's (1982) survey paper.

## A Review of Wage Settlements

Before examining the structure of wage settlements in the public sector in comparison with private sector wage settlements, we will review the average size of wage settlements in both sectors over the past 16 years. In its collection and analysis of wage settlements covering 500 or more employees, Labour Canada provides information on base wage rate changes disaggregated into commercial and non-commercial sectors, where the non-commercial sector is defined to include federal, provincial

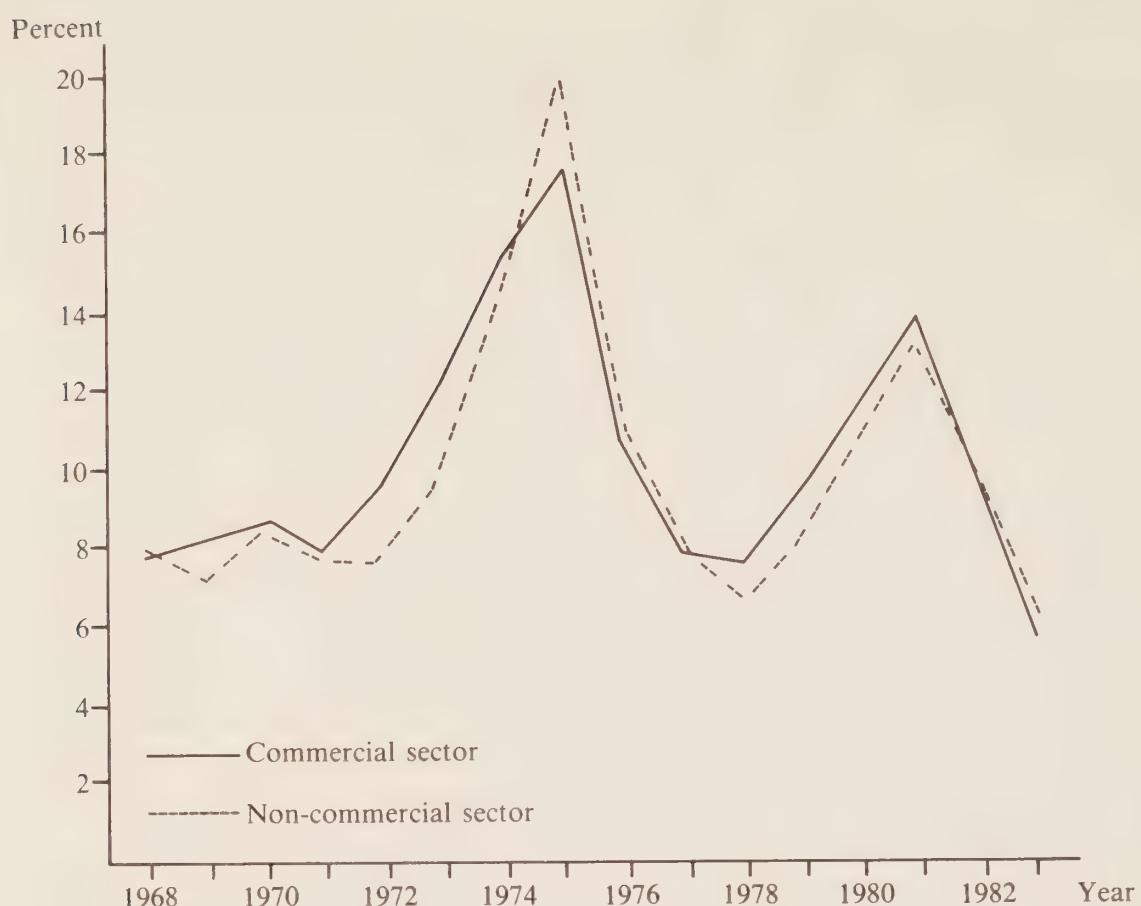
and municipal governments plus highway and bridge maintenance, water systems and utilities, welfare organizations, education and related services, and hospitals. Thus, Labour Canada's distinction between the commercial and non-commercial sector may not coincide with the general perception of the private and public sectors, since wage contracts involving Canada Post, the Canadian Broadcasting Corporation, and various transportation workers are classified as commercial sector contracts.

Even though Labour Canada's base wage rate data have been extensively used to analyze private and public sector wage increases, it is important to point out the advantages and limitations of this data set. Unlike average hourly earnings data, which do not exist for the public sector prior to 1983, base wage rates are a direct measure of wage rates and are not contaminated from the effects of changes in the number of premium overtime hours worked or from changes in the mix of employees. The major limitations of base wage rate data are the lack of coverage of non-union workers, a problem which is more acute in the private sector; the arbitrary designation of one occupation class within the bargaining unit as the base wage rate, a designation which may differ substantially between the public and private sectors; the existence of "classification creep" whereby individuals receive income increases through promotion and reclassification, which may be more prevalent in the public sector; and the omission of fringe benefits. With respect to this latter point, it should be noted that some fringe benefits are inherently unmeasurable (for example, the value of an indexed pension depends on the value of the inflation rate over the next 30 to 50 years) and only changes in fringe benefits are relevant for an analysis of wage rate changes.<sup>5</sup>

Figure 5-1 presents the average annual negotiated base wage rate settlement for contracts without cost-of-living adjustment (COLA) clauses in both sectors. Clearly, average wage settlements in the commercial and non-commercial sectors have moved in a very similar manner over the 1968-83 period. Considering the period as a whole, commercial sector wage settlements have exceeded non-commercial sector wage settlements by approximately four-tenths of one percent a year on average. Compounding these negotiated wage increases over this 16-year period, commercial sector base wage rates increased by 370 percent compared with a 344 percent increase in the non-commercial sector.

Table 5-1 presents more detailed information on wage settlements following the end of wage controls monitored by the federal Anti-Inflation Board (AIB). Besides the average negotiated base wage rate increase in contracts without COLA clauses, the average "effective" wage increase for all contracts where COLA increases have been "factored in" is also presented.<sup>6</sup> This distinction between COLA and non-COLA clause contracts is more important for the commercial sector, where almost 40 percent of all contracts contain COLA clauses (compared with only 15

**FIGURE 5-1 Annual Average Wage Changes provided by Major Collective Agreements (without COLA)**



Source: Labour Canada, *Major Wage Settlements* (Ottawa: Supply and Services Canada, various years).

percent in the non-commercial sector). In addition, the non-commercial sector has been further disaggregated into federal, provincial and municipal government levels, along with a separate category for the education and health sectors. As summarized in Table 5-1, commercial sector wage settlements over the 1978-83 period on average exceed wage settlements in each of the four components of the public sector (with or without the inclusion of COLA clause contracts). While wage settlements in the provincial, municipal, health and education sectors are, on average, only marginally less than commercial sector wage settlements, federal sector wage settlements are about one full percentage point less per year than private sector wage settlements. In fact, only in 1983, under the federal government's "6-and-5" program, did wage settlements in the federal sector approach the size of wage settlements in the commercial sector.<sup>7</sup> Given the empirical evidence presented in Figure 5-1 and Table 5-1, it would be difficult to argue that public sector wage settlements have been "out of control" or "outrunning" wage settlements in the private sector. If anything, Labour Canada's data suggest that public sector wage rates since 1968 have been increasing at a slower pace than wage rates in the private sector.

In their recent study on collective bargaining in the Canadian public

**TABLE 5-1 Weighted Average Annual Wage Increases  
in Major Collective Agreements**

	1978	1979	1980	1981	1982	1983	1978-83 Average
(percent)							
<b>Commercial Sector</b>							
Non-COLA contracts (888)	7.6	9.5	11.5	13.9	9.6	5.5	9.62
All contracts (1465) <sup>a</sup>	8.2	10.8	11.6	12.9	10.1	5.7	9.88
<b>Federal Government</b>							
Non-COLA contracts (244)	6.6	8.2	10.8	12.6	7.8	5.5	8.58
All contracts (254) <sup>a</sup>	7.1	8.4	11.3	12.7	8.6	5.5	8.93
<b>Provincial Government</b>							
Non-COLA contracts (195)	7.3	8.4	11.2	13.6	10.6	6.6	9.62
All contracts (222) <sup>a</sup>	7.8	9.2	11.3	13.5	11.8	5.0	9.77
<b>Local Government</b>							
Non-COLA contracts (199)	6.4	8.7	10.4	13.2	12.9	5.7	9.55
All contracts (251) <sup>a</sup>	7.3	9.3	10.8	12.8	11.9	5.8	9.65
<b>Education and Health Sector</b>							
Non-COLA contracts (829)	6.7	7.9	9.7	13.7	11.3	6.7	9.33
All contracts (1002) <sup>a</sup>	6.8	8.2	9.9	13.4	11.4	6.7	9.40

Source: Labour Canada, E.I.R. Research File.

a. COLA wage increases are calculated on the basis of actual CPI movements for the 1978-83 period and using a forecast 5 percent increase in the Consumer Price Index for 1984 and beyond.

service, Finkelman and Goldenberg (1983) reach very similar conclusions concerning wage trends in the private and public sectors:

[T]he basic questions for the purpose of this discussion are not whether wages in the public sector have been rising — as clearly they have been — but whether, as is popularly believed, they have been rising at a significantly higher rate than wages in the private sector, and what subsectors within the public sector have been responsible for the highest overall increases. . . .

None of the serious comparative research on wage developments in the private and public sectors bears out the popular perception, shared by the policy makers in a number of jurisdictions, that overall negotiated increases in the public sector have significantly outpaced those in the private sector, either in the decade prior to the imposition of wage and price controls in 1975 (the period on which most of the research has been based) or in the years that have followed. . . . Annual percentage base-rate increases for settlements in the public sector, broadly defined, have generally been on line with, or even slightly lower than, increases in the private sector. . . .

One fact that emerges . . . is the volatile nature of the settlements made at the provincial and local levels, including those for the health, welfare and education services; unusually high settlements in particular years tend to be dissipated over time. . . . The rate of base-wage increases in public sector settlements, taken as a general rule and averaged over a period of years, has been inversely related to the level of government. The smallest relative increases have occurred at the federal level, and the largest, including those

related to health, welfare and education, at the provincial and local levels. (pp. 370-71)

## A Review of the Literature

Three groups of Canadian researchers have separately analyzed the structure of negotiated wage settlements in the Canadian public sector: Cousineau and Lacroix; Auld, Christofides, Swidinsky and Wilton; and Riddell and Smith. All three groups use Labour Canada wage settlement data to estimate a price expectations augmented Phillips Curve, with some additional explanatory variables, for both the private (commercial) and public (non-commercial) sectors. A comparison of estimated coefficients reveals the extent to which the wage structure in the public sector is different from that found in the private sector.

While the basic methodology deployed by each research group is the same, there are important differences among the studies. With respect to the choice of wage settlement data, Cousineau and Lacroix, and Auld, Christofides, Swidinsky and Wilton use the wage settlements data in "micro" form, whereas Riddell and Smith employ monthly "averages" of the (micro) wage settlements data. Furthermore, the sample of "micro" contracts used by Cousineau and Lacroix, and Auld, Christofides, Swidinsky and Wilton is quite different: Auld, Christofides, Swidinsky and Wilton exclude wage contracts with COLA clauses and include wage contracts for bargaining groups containing fewer than 500 employees,<sup>8</sup> whereas Cousineau and Lacroix include COLA contracts but exclude bargaining groups of less than 500 employees from their sample. Finally, all studies face common problems in trying to measure inflation expectations, inflation catch-up, and excess labour demand. All three groups use different proxies and supplementary variables to specify the form of their basic theoretical model.

### *Cousineau and Lacroix (1977)*

In the fourth chapter of their monograph, Cousineau and Lacroix present the following two wage equations, estimated over the 1967-75 (pre-AIB) time period, as the basis of their comparative analysis of the private and public sectors (*t*-statistics are reported in parentheses below each estimated coefficient):<sup>9</sup>

$$\begin{aligned} \dot{W}_{i,t} \text{ private} = & 8.37 + 0.042 \dot{P}_{t-6}^2 + 0.00025 ITV_t^2 & (1) \\ & (16.9) \quad (10.1) \quad (10.3) \\ & + 0.08 SM - 2.28 INDEX - 2.67 S_1 \\ & (1.0) \quad (-8.7) \quad (-4.6) \\ & - 2.87 S_2 - 2.27 S_3 - 0.96 S_4 \\ & (-6.1) \quad (-4.6) \quad (-1.9) \end{aligned}$$

$$\bar{R}^2 = 0.38$$

$$F = 159.7$$

$$n = 2013$$

$$\dot{W}_{i,t} \text{ public} = 1.85 + 0.07 \dot{P}_{t-6}^2 + 0.00013 ITV_t^2 \quad (2)$$

$$+ 8.77 SM + 4.07 NC - 1.57 INDEX$$

$$- 2.59 X_1 - 0.90 X_2 + 0.06 X_3$$

$$\bar{R}^2 = 0.53$$

$$F = 162.4$$

$$n = 1159$$

where

$\dot{W}_{i,t}$  = annual average percentage change in the base wage rate stated in collective agreement  $i$  signed in month  $t$ ;

$ITV_t$  = vacancy rate index for the economy as a whole;

$\dot{P}_{t-6}$  = average annual percentage change in the consumer price index (three-month moving average) with a lag of six months from the date on which agreement  $i$  was signed;

$INDEX_i$  = 1 when agreement  $i$  contains a COLA clause (otherwise 0);

$X_j$  = dummy variable taking into account the federal, provincial and municipal sectors; the quasi-public sector is omitted;

$NC_i$  = 1 when agreement  $i$  is a first collective agreement (otherwise 0);

$SM_{i,t,k}$  = current minimum wage rate in province  $k$  (or in the federal jurisdiction, if appropriate) in which agreement  $i$  was signed divided by the last wage rate received by the workers concerned before agreement  $i$  was signed; and

$S_j$  = dummy variable with the value 1 if agreement  $i$  belongs to sector  $j$ :  $j=1$  mining,  $j=2$  manufacturing,  $j=3$  transportation, communication and public utilities,  $j=4$  private services, the forestry sector being omitted.

When Cousineau and Lacroix first present their public sector wage equations, they comment that “overall the results obtained are very satisfactory since all the coefficients of the principal explanatory variables are significant and have the proper sign. Moreover, the coefficient of determination (0.53) seems acceptable, in view of the value of  $F$  and the type of data used” (p. 51). In fact, the wage equation in the public sector has a substantially higher  $\bar{R}^2$  than that obtained by Cousineau and Lacroix for the private sector. On purely statistical grounds, a conventionally augmented Phillips Curve model appears to provide a better explanation for wage changes in the public sector than for those in the private sector.

A comparison of estimated price and labour market coefficients between the private and public sector wage equations reveals that the labour market coefficient in the private sector is about twice the size of that in the public sector (both of which are significantly different from zero), whereas the private sector inflation coefficient is only 60 percent as large as that found in the public sector. However, it should also be noted that the intercept in the private sector wage equation is 6.5 percent higher than the intercept in the public sector wage equation.<sup>10</sup> Cousineau and Lacroix overlook this dramatic difference in estimated intercepts, which suggests relatively higher wage settlements in the private sector, and draw the following three conclusions from their comparative analysis:

First, wages in the public sector are clearly more responsive to inflation than those in the private sector. Second, labour market conditions have little effect on wages in the public sector and much less than those in the private sector. Third, only in the public sector has the rate of increase for relatively low wages been higher than for high wages. (p. 63)

On the basis of these empirical conclusions, Cousineau and Lacroix argue that “during ‘stagflation’ periods . . . behaviour of wages in the public sector has major disturbing effects on the whole economy” (p. 67) and “wage policy, as practiced in the public sector, could conflict as much with the government’s goal of stabilizing the economy at a level approaching ‘full employment’ as with its desire to increase the ability of the private sector to compete” (p. 69). In their conclusions, they state that “wage settlements in the private sector would be easier to achieve if they were not regularly subject to the pressure of particularly generous settlements in the large public sector” (p. 117). Cousineau and Lacroix believe the “difference between wage developments in the public and private sector [is] . . . of fundamental importance” (p. 113) and that a new “wage policy must seek to bring [public sector wage settlements] into line” (p. 117).

As demonstrated below, Cousineau and Lacroix’s empirical results, the basis of their strong policy pronouncements, are at odds with the

empirical results reported by Auld, Christofides, Swidinsky and Wilton and by Riddell and Smith. Before turning to these other studies, three comments concerning their empirical results should be noted. First, as indicated above, public sector wage settlements were, on average, less than private sector wage settlements during this period. In fact, Cousineau and Lacroix acknowledge that wage settlements during the 1968-72 period were "regularly lower in the public sector than in the private sector" (p. 16) and that "it was not until 1975 that wage increases [in the public sector] outpaced those in the private sector" (p. 18).

Second, in a review of their study, Riddell (1979) raises a number of specification problems which may affect the empirical conclusions they draw:

Some reservations should, however, be stated regarding the empirical work. Probably most important is the proxy used for the expected inflation rate. . . . A good deal written about the measurement of inflationary expectations indicates that simply using the recent inflationary experience is inadequate. Further, the authors' argument that since inflation was accelerating over this period the expected rate will exceed the actual rate does not justify using the square of the actual rate. . . . Another problem concerns the treatment of contracts containing COLA clauses. . . . For a given COLA clause the difference between the observed wage change and the total wage change will depend on the expected rate of inflation. Thus the COLA dummy should have been interacted with the anticipated inflation variable. . . . The chapter on the catch-up effect is weak. . . . The catch-up variable used is the change in real wages over the previous contract, not the difference between the expected and actual change in real wages. This misspecification makes rather tenuous the conclusion that catch-up is only a minor factor in private sector settlements and is insignificant in public sector settlements. (pp. 334-35)

In fairness to Cousineau and Lacroix, it should be pointed out that their monograph was the first study of a very large micro wage contract data base (consisting of over 3000 wage contracts). Subsequent studies have had the benefit of Cousineau and Lacroix's path-breaking work and have been able to refine the specification of the wage settlement econometric model.

Finally, while specification of the basic model might account for differences in the estimated parameters between various studies, there is an important difference in sample composition between the Cousineau-Lacroix study and the subsequent studies by Auld, Christofides, Swidinsky and Wilton and by Riddell and Smith which might also account for these parameter differences. As noted above, Cousineau and Lacroix include all COLA clause contracts in their sample, whereas subsequent studies have dropped COLA clause wage contracts from the sample (for reasons which have become more widely appreciated since the Cousineau-Lacroix study). Since most of the Quebec public sector

wage contracts signed during the 1970s contained COLA clauses, the Quebec public sector is largely absent from subsequent studies by Auld, Christofides, Swidinsky and Wilton and by Riddell and Smith but is a key part of the Cousineau-Lacroix study. In an unpublished study done for the Quebec government in 1979, Cousineau and Lacroix compare the wage determination process in Quebec with that found in Ontario (using the same model specification as in their study prepared for the Economic Council). While they find substantial differences in wage coefficients between the Quebec private and public sectors, they find practically no differences in wage coefficients between the Ontario private and public sectors. Thus it is possible that their inclusion of the perhaps more militant Quebec public sector, which was able to negotiate COLA clauses in most of its wage contracts, may account for the different parameter estimates obtained by Cousineau and Lacroix and those subsequently obtained, which were based on wage contract samples which excluded all COLA clause contracts.<sup>11</sup>

### *Auld, Christofides, Swidinsky and Wilton and Combinations Thereof*

In a 1979 monograph prepared for the Anti-Inflation Board, Auld, Christofides, Swidinsky and Wilton (1979a) analyze the structure of wage settlements over this same 1966–75 time period for both the private and public sectors. The major specification differences between this study and the Cousineau-Lacroix study are the following:

- the exclusion of all COLA contracts;<sup>12</sup>
- the inclusion of smaller (200–499 employee) bargaining groups;
- the use of linear, rather than quadratic, forms in the wage equations;
- the use of three different proxies for labour market conditions;
- different proxies for inflation expectations; and
- the inclusion of a catch-up variable for uncompensated past inflation.

With regard to these last two points, Auld, Christofides, Swidinsky and Wilton base their proxy variable for inflation expectations on an auto-regressive forecasting equation which is used to forecast the inflation rate over the next contract period (forecasts which are specific to the length of contracts). Their price catch-up variable, defined below, allows for both unexpected inflation ( $\dot{P}^A - \dot{P}^E$ ) over the previous contract period and the possibility that all of expected inflation ( $\dot{P}^E$ ) is not incorporated into wage contracts *ex ante* (that is, the coefficient on expected inflation is less than unity). Since all variables ( $\dot{W}$ ,  $\dot{P}^E$ ,  $\dot{P}^A$ ) are expressed at annual rates, the price catch-up variable will depend on the length of the previous and current wage contract ( $l_{-1}$  and  $l$ ).<sup>13</sup> Representing labour market conditions by  $LM$ , their basic model can be written as

**TABLE 5-2 Wage Settlements Regressions for Private and Public Sectors, 1966-75**

	Private Sector (2,338 Contracts)			Public Sector (1,240 Contracts)		
Constant	6.36 (23.09)	4.92 (20.01)	3.39 (9.01)	3.53 (6.52)	3.56 (7.05)	2.03 (3.06)
Inflation Expectations	0.55 (14.20)	0.50 (10.39)	0.37 (6.92)	0.52 (8.28)	0.37 (4.40)	0.27 (2.90)
Inflation Catch-Up	0.65 (22.51)	0.64 (21.72)	0.57 (18.43)	0.77 (18.63)	0.71 (15.88)	0.65 (14.13)
Reciprocal of Unemployment Rate	-5.80 (4.84)			7.00 (3.19)		
Job Vacancy Rate		0.74 (1.54)			2.92 (3.22)	
Help-Wanted Index			2.03 (5.15)			2.94 (4.56)
Composite Inflation Coefficient	0.84	0.82	0.73	0.89	0.82	0.74
$R^2$	0.427	0.421	0.428	0.393	0.394	0.400

*Source:* D.A.L. Auld, L.N. Christofides, R. Swidinsky and D.A. Wilton, *The Determinants of Negotiated Wage Settlements in Canada, 1966-75* (Ottawa: Anti-Inflation Board, 1979), pp. 108 and 193.

*Note:* *t*-statistics in parentheses.

follows, with the expression in square brackets denoting price catch-up for uncompensated past inflation:<sup>14</sup>

$$\dot{W} = c + a\dot{P}^e + b[(\dot{P}_1^A - a\dot{P}_1^e)(l_1/l)] + dLM$$

Preliminaries now completed, Table 5-2 presents the authors' wage settlement equations for the private and public sectors using three different proxies for (regional) labour market conditions: the reciprocal of the unemployment rate, the now-defunct job vacancy rate survey, and the help-wanted index. While the public sector wage equations have a slightly poorer fit than the private sector wage equations, all explanatory variables in the public sector wage equations are highly significant (at the one percent level).

Comparing coefficients between sectors, the price expectations coefficients are marginally lower and the price catch-up coefficients are marginally higher in the public sector. However, the composite inflation coefficients ( $a + b - ab$ ) are virtually the same in both sectors. As found by Cousineau and Lacroix, the intercepts (or constants) are higher in the private sector wage equation than in the one for the public sector.

**TABLE 5-3 Wage Settlements Regressions for Private and Public Sectors in Ontario and the Rest of Canada, 1966-75**

	Ontario		Rest of Canada	
	Private	Public	Private	Public (Non-Federal)
Constant	4.45 (7.51)	1.98 (1.35)	3.91 (8.15)	2.62 (3.34)
Inflation Expectations	0.60 (6.80)	0.51 (3.00)	0.40 (5.99)	0.01 (0.08)
Inflation Catch-Up	0.36 (7.42)	0.57 (6.75)	0.64 (14.91)	0.87 (12.95)
Help-Wanted Index	0.69 (1.12)	1.41 (2.43)	0.62 (3.12)	0.79 (2.53)
Composite Inflation Coefficient	0.75	0.79	0.78	0.87
$R^2$	0.464	0.331	0.451	0.485

*Source:* D.A.L. Auld and D.A. Wilton, *Public Sector Wage Inflation in Ontario*, Occasional Paper 12 (Toronto: Ontario Economic Council, 1981), pp. 31-32.

*Note:* *t*-statistics in parentheses.

Finally, and most interesting, the three different labour market coefficients are all higher in the public sector than in the private sector. However, Auld, Christofides, Swidinsky and Wilton report that the intersectoral parameter differences for the help-wanted index specification (the best fitting equation in each sector) are not significant.<sup>15</sup> Unlike Cousineau and Lacroix, they find that, over the 1966-75 time period, labour market conditions exerted a stronger effect on public sector wage settlements than on private sector wage settlements, although these differences are not statistically significant.

In a subsequent study on the impact of the AIB, Christofides and Wilton (1979b) reestimate the basic model of Auld, Christofides, Swidinsky and Wilton over the extended time period 1966-78. Incorporating a simple dummy variable for the AIB time period (which is highly significant in both the private and public sectors), Christofides and Wilton again report a higher estimated coefficient for the labour market variable in the public sector than in the private sector (2.66 compared with 2.04), with virtually identical expected inflation and price catch-up coefficients in both sectors.

In a 1981 study commissioned by the Ontario Economic Council, Auld and Wilton reestimated this basic model for the private and public sectors in the province of Ontario (as well as for an aggregate of the other nine provinces). As shown in Table 5-3, very similar results were obtained. Coefficients for the labour market variable are higher in the Ontario public sector than in the Ontario private sector (as is the case for

**TABLE 5-4 Public Sector Wage Settlements Regressions Disaggregated by Method of Settlement**

	Direct Bargaining	Mediation or Conciliation	Arbitration
Constant	2.03 (2.63)	4.08 (4.52)	7.75 (6.53)
Inflation Expectations	0.51 (5.29)	0.21 (2.02)	0.29 (2.48)
Inflation Catch-Up	0.48 (6.70)	1.11 (9.99)	0.72 (5.21)
Job Vacancy Rate	5.88 (4.33)	1.05 (0.66)	-3.37 (1.62)
Composite Inflation Coefficient	0.75	1.09	0.80
$\bar{R}^2$	0.409	0.527	0.372
Number of Observations	360	293	181

*Source:* D.A.L. Auld, L.N. Christofides, R. Swidinsky and D.A. Wilton, "A Microeconomic Analysis of Wage Determination in the Canadian Public Sector," *Journal of Public Economics* 13 (1980), p. 379.

*Note:* *t*-statistics in parentheses.

the rest of Canada), whereas the composite price coefficients are very similar between the Ontario private and public sectors (again the price catch-up coefficients are higher in the public sector and the inflation expectations coefficients are higher in the private sector).

In a still later paper, Auld, Christofides, Swidinsky and Wilton (1980) examine whether differences in the method of contract settlement (direct bargaining, mediation or conciliation, and arbitration) affect the structure of public sector wage settlements. Table 5-4 reproduces the results obtained when they estimate their basic model over the pre-AIB time period, disaggregated by settlement stage. "The most obvious feature of these results is the collapse of the labour market variable in all three public sector wage equations as one proceeds from directly bargained to arbitrated wage settlements" (p. 378). The vacancy rate coefficient moves from a highly significant positive effect under direct bargaining to a negative, but not significant effect under arbitration. Perhaps as interesting, the estimated intercept in the public sector wage equation moves from a modest 2.03 value under direct bargaining to a value of 7.75 under arbitration.<sup>16</sup> As the authors report, these estimated wage coefficients are significantly different among the three methods of settlement (taken jointly or in pairs).

In summary, while Auld, Christofides, Swidinsky and Wilton find that the overall wage structure in the public sector is very similar to that

found in the private sector, there is a small component of the public sector where wage settlements are quite different. Comparing arbitrated public sector wage settlements to private sector wage settlements (in Table 5-2), the estimated intercept for arbitrated public sector wage settlements is almost 3 percent a year higher, and there is no significant labour market effect on arbitrated wage settlements. A comparison of the estimated wage equation for public sector settlements reached by direct bargaining and all private sector wage settlements reveals that “bargained” public sector wage settlements are characterized by less price catch-up, much greater sensitivity to labour market conditions and a much lower estimated intercept. Even though the roughly 20 percent of public sector wage settlements which were reached by binding arbitration were unrelated to labour market conditions, and “out-of-line” with private sector wage settlements, the much greater number of public sector wage settlements reached by direct bargaining were less inflationary and were more responsive to labour market conditions than private sector wage settlements.

In a review of the literature on the effects of arbitration (which primarily occurs in the public sector), Gunderson (1983, p. 37) concludes:

With respect to the effects of arbitration on wages, the empirical evidence is also inconclusive and fraught with methodological problems. In general, arbitration seems to yield a slight upward bias to wages, reduced wage dispersion, and settlements that are highest when it is first introduced. Some limited evidence also suggests that arbitrators do not pay attention to labour market conditions . . . and that arbitration does not have spillover effects on the private sector.

### ***Riddell and Smith (1982)***

A more recent study by Riddell and Smith (1982) investigates the structure of wage changes in Canada using the monthly employment-weighted average of all negotiated wage contracts (excluding COLA clause contracts) over the 1967–81 time period. The major distinguishing feature of this paper is the use of Box-Jenkins techniques to generate inflation expectations forecasts. Rather than using one “full sample” estimated ARIMA model to generate all inflation forecasts, Riddell and Smith sequentially update their inflation forecasts by reestimating the basic ARIMA model including only the preceding 384 months of Consumer Price Index data. In addition to their specially constructed variable for inflation expectations, they include in their wage change model the unemployment rate, a price catch-up variable,<sup>17</sup> an AIB dummy variable, and an unemployment insurance variable (to correct for movements in the natural rate of unemployment).

While Riddell and Smith conduct most of their empirical analysis

**TABLE 5-5 Wage Change Equations, 1967–81**

	Commercial Sector	Non-Commercial Sector
Intercept	8.12 (4.32)	10.9 (5.59)
AIB Dummy	−0.55 (0.50)	−0.18 (0.14)
Inflation Expectations	0.20 (1.27)	0.17 (0.95)
Inflation Catch-Up	0.92 (3.75)	1.19 (4.85)
Unemployment Rate	−1.42 (3.76)	−1.50 (3.57)
UI Variable	18.9 (2.10)	2.23 (0.23)
SEE	1.93	2.73
rho	0.615	0.450

*Source:* W.C. Riddell and P.M. Smith, "Expected Inflation and Wage Changes in Canada," *Canadian Journal of Economics* 15 (1982), p. 388.

*Note:* *t*-statistics in parentheses.

using an aggregation of the private and public sectors, they provide (but do not comment upon) separate matching regressions for the commercial and non-commercial sectors (reproduced in Table 5-5). The robustness of the augmented Phillips Curve in the public sector and the surprisingly similar estimated coefficients in each sector (for example, the inflation expectations coefficient is only 0.03 higher in the commercial sector) is striking. The unemployment rate is highly significant in the public sector wage equation, and it has an estimated coefficient which is marginally higher than that found in the private sector. The fact that Riddell and Smith choose to carry out all of their empirical analysis using an aggregation of the private and public sectors suggests that they regard the differences between the private and public sectors wage equations as inconsequential or insignificant.

## Wage Structure in the 1978–83 Period

Most of the literature reviewed in the previous section is based on the relatively expansionary pre-AIB time period, and only Riddell and Smith include data up to 1981. To my knowledge, there are no comparative wage studies of the Canadian private and public sectors which cover the 1982–83 recession/disinflation period. In an attempt to fill this vacuum, I estimate a very simple price expectations augmented Phillips Curve for both the private and public sectors covering the post-AIB, 1978–83

period, an economic period very different from the late 1960s and early 1970s.

The dependent variable used in this empirical analysis is the average wage settlement, excluding COLA clause contracts, for each quarter in the 1978–83 period (24 observations in total). Two labour market proxies (the reciprocal of the unemployment rate and the help-wanted index normalized by the size of the labour force, each lagged one quarter) and two proxies for inflation expectations (the Auld, Christofides, Swidinsky and Wilton specification and a simple two-year moving average of past inflation rates) are deployed in the analysis. Given the use of aggregate data, no price catch-up (or catch-down) variable is included in the regressions.<sup>18</sup> The four combinations of inflation expectation proxies and labour market variables for both the commercial and non-commercial sectors are presented in Table 5-6.

Having estimated literally hundreds of wage equations over the past fifteen years, I cannot recall such overwhelmingly strong statistical evidence in favour of the price expectations augmented Phillips Curve as that presented in Table 5-6. Every labour market coefficient is correctly signed and significant at the one percent level. All inflation expectations coefficients are significantly greater than zero (at the one percent level) but never significantly different from unity (at the one percent level). Clearly, the Canadian Phillips Curve is alive and well, in both the private and public sectors.

A comparison of coefficient estimates between sectors reveals mixed results for the inflation expectations coefficients. Using the Auld, Christofides, Swidinsky and Wilton proxy for inflation expectations, higher inflation coefficients are found in the commercial sector (which are approximately 0.16 higher). However, the reverse is the case for a simple two-year average of past inflation, where inflation expectations coefficients in the public sector are higher (by approximately 0.12). With respect to labour market coefficients, it again is a split decision. In two cases the labour market coefficient is larger in the commercial sector than in the non-commercial sector and, in one instance, it is larger in the non-commercial sector; in the fourth instance it is identical to four decimal points in both sectors. However, none of the inflation expectations or labour market coefficients in the public sector are significantly different (even at the 10 percent level) from the value of the respective estimated coefficient in the private sector.

As a final experiment, a dummy variable representing the federal government's "6-and-5" program (which began in the third quarter of 1982) is included in the best wage settlement regression equation. As is obvious from Table 5-6, this "6-and-5" dummy variable is insignificant in both the total public and private sectors. One notes in passing that the "6-and-5" dummy variable also has the wrong sign. Since the "6-and-5" controls program applied only to federal government employees (a small

TABLE 5-6 Wage Settlement Equations for Contracts without COLA Clauses, 1978Q1-1983Q4

	Total Commercial Sector				Total Non-Commercial Sector		
Constant	-7.53 (4.52)	-4.74 (3.83)	-11.50 (7.79)	-6.65 (5.01)	-13.76 (4.51)	-7.06 (2.50)	-4.45 (2.17)
Inflation	1.13	1.14				0.92	1.03
Expectations (ACSW)	(6.34)	(7.43)				(3.54)	(4.48)
Inflation Expectations (2 Yr)			1.13 (9.01)	1.08 (8.21)	1.12 (8.74)		
Reciprocal of Unemployment Rate	52.89 (3.58)		82.40 (8.93)		100.92 (4.25)	59.73 (2.45)	
Help-Wanted Index		0.0520 (4.29)		0.0817 (8.54)		0.0520 (2.65)	0.0668 (4.98)
“6-and-5” Dummy Variable				0.96 (0.84)			0.18 (0.17)
rho	0.24	—	—	—	—	0.80	0.73
DW	1.98	1.70	1.79	2.14	1.89	1.95	2.10
SEE	0.995	1.028	0.922	0.954	0.928	0.831	0.764
F	55.99	83.63	106.56	98.71	70.32	16.40	22.26
						40.60	50.99
							26.49

Source: Calculations by the author.

Note: *t*-statistics in parentheses.

proportion of the total non-commercial sector), this basic model was reestimated using the average size of contracts signed within the federal sector as the dependent variable. While the coefficient on the “6-and-5” controls dummy in this federal sector regression (not shown in Table 5-6) has a negative coefficient of 0.91, it also is not significantly different from zero. Even though federal and all public sector wage settlements substantially declined in the latter part of 1982, preliminary statistical evidence suggests that these lower wage settlements were primarily attributable to declining economic and labour market conditions.

## **Wage Spillovers**

All of the literature reviewed above assumes that each individual wage contract is negotiated independently of all other (recent) wage settlements — that is, each group of workers is assumed to negotiate a contract in isolation from the wage increases obtained by other workers. However, it is frequently alleged that the wage inflation process is intensified by wage comparisons between different groups of workers. In fact, one of the oldest themes in the wage determination literature is the importance of wage spillovers between bargaining groups. While the earlier “institutional” literature stressed the importance of social and political factors, the concept of wage spillovers is firmly embedded in traditional microeconomic analysis of labour markets, which emphasizes relative wage effects within the labour supply function.<sup>19</sup>

The notion of wage spillovers is often cited as an argument in favour of a public sector wage restraint policy, usually by private sector commentators and business persons rather than by public sector academic and government economists. If the government grants “generous” wage increases to its own workers, such large public sector wage settlements could spill into the private sector and permeate throughout the whole economy. Even though the empirical evidence suggests that, on average, public sector wage settlements have not been higher than private sector wage settlements (nor have they been structurally dissimilar), the empirical evidence on wage spillovers from the public sector to the private sector is briefly examined. To detect wage spillovers, it is desirable to examine micro wage contract data. There have been two recent attempts to investigate wage spillovers between the public and private sectors in Canada using micro data, and I now turn to a review of their findings.

### ***Auld, Christofides, Swidinsky and Wilton (1979a)***

In their monograph prepared for the AIB, Auld, Christofides, Swidinsky and Wilton (1979a) augment their basic wage determination model (described above) with a series of spillover explanatory variables repre-

senting recent wage settlements from a particular "reference group." In their analysis of private sector wage settlements, the following four different spillover reference group definitions were utilized:

- total private sector, disaggregated by region (five regions in Canada);
- broad industry (five categories) private sector, regionally disaggregated;
- specific industry (56 categories) private sector, regionally disaggregated; and
- public sector, regionally disaggregated.

The latter reference group would include the most recent wage settlements in the total public sector within the same region as the given private sector settlement. For each of these four reference group definitions, various weighting schemes were applied to the reverse chronological ordering of past (reference group) wage settlements.<sup>20</sup>

Auld, Christofides, Swidinsky, and Wilton (1979a) summarize their empirical findings for the four spillover reference groups in the following manner:<sup>21</sup>

Spillover variables which are defined only in terms of geographic areas performed unsatisfactorily throughout the extensive set of experiments undertaken. . . .

The one characteristic of a spillover reference group definition to receive overwhelming statistical support is the industrial classification. . . . The more narrowly defined the industry classification, the sharper the statistical results for the wage spillover effect. . . .

No evidence was found to support the hypothesis that settlements in the public sector significantly spill into the private sector. (p. 157)

With respect to this latter point, the authors present ten different private sector wage settlement equations, including some variant of a public sector wage spillover effect. In all ten cases, the public sector spillover variables have a negative, but insignificant effect on private sector wage settlements. In contrast, the private sector spillover variables for the industrial regional reference group always have positive coefficients with individual *t*-scores in the range of 4 to 10.

While a "more cleverly" defined reference set might uncover significant spillovers from the public sector to the private sector, say, at the occupation level, our results strongly suggest that the general pattern of wage settlements in the total public sector is not transmitted to the private sector in the form of a pervasive set of wage spillover effects. (p. 146)

## ***Dussault and Lacroix (1984)***

Using a more refined approach to pinpoint spillover effects, Dussault and Lacroix (1984) find some empirical support for a limited wage

spillover mechanism from the public sector to the private sector. Such public sector wage spillovers occur only when the public sector workers are located in the same urban area as the private sector workers and when the public sector wage settlement covers "white- or blue-collar workers." The extent of this public sector wage spillover is diminished if the urban area is large<sup>22</sup> and/or the private sector employer is faced with foreign competition. However, Dussault and Lacroix find no evidence of public sector spillovers into the private sector when the public sector settlement covers "teachers, nurses, firemen or policemen" or when the private sector workers are located in a different urban area from the "white/blue collar" public sector employees. Finally, they find that a private sector spillover variable, based on the past six wage agreements signed in the same urban area and in the same major industrial group, is highly significant (with the largest *t*-score of all of their explanatory variables) and has a positive coefficient which appears to dominate (in size) the narrowly defined public sector wage spillover effect.

The results found by Dussault and Lacroix are not incompatible with the earlier study by Auld, Christofides, Swidinsky and Wilton (1979a), which defined the public sector reference group to include all public sector workers within the provincial region. Given such a broad definition of the public sector reference group, no public sector spillover effects were detected. Dussault and Lacroix confirm the absence of a public sector spillover effect when the reference group includes "teachers, nurses, policemen or firemen" and when the public sector reference group is not located in the same urban area. Only when Dussault and Lacroix narrow the public sector reference group to the same urban area and exclude teachers, nurses, policemen and firemen are they able to detect a public sector wage spillover effect in the private sector. Even in this narrow case, the public sector spillover effect appears to be dominated by a private sector spillover effect. While Dussault and Lacroix find significant but narrowly defined public sector wage spillovers into the private sector, their empirical evidence rules out the possibility of pervasive spillover effects from one or more public sector wage settlements to the entire economy.

## Summary and Conclusions

There appears to be a fairly widespread general perception that public sector wages are "out of control," being determined in a very different manner from private sector wages. Without a profit motive and market sanctions, government wage settlements are typically regarded as being too generous and insensitive to economic conditions. The usual caricature is that of a politically motivated government willy-nilly conceding to the demands of overly aggressive public sector unions. It is further alleged that such generous public sector wage settlements will

spill over into the private sector, eroding the competitive position of Canadian industry.

However, a review of the existing literature and empirical evidence on the size and structure of public sector wage settlements in comparison with private sector wage settlements suggests that this general perception of public sector wage compensation represents a serious distortion of economic reality. As outlined in the first section of this paper, there are important countervailing economic forces which constrain the size of public sector wage settlements. In periods of economic expansion, public sector employers must compete with private sector employers to attract new employees, and must therefore pay competitive market wages. During periods of economic contraction the government deficit greatly increases in size (because of shrinking tax revenues and increasing expenditures on unemployment insurance, welfare, and so on), placing severe financial restraints on the ability of the government to grant "large" wage increases. With increasing attention directed toward the size of the government deficit, it is an open question whether the lack of a profit motive in the public sector has been more than offset by the perceived "political" need for increased government fiscal restraint. Since public sector wages represent one of the few instruments available to the government to exercise and demonstrate fiscal restraint, public sector wage settlements (and public sector employees) are unlikely to escape the negative consequences of a recessionary economy.

A review of the existing literature and empirical evidence on public sector wage settlements leads one to draw the following three conclusions concerning public sector wage compensation. First, over the 1967-83 time period, wage settlements in the public sector have not exceeded wage settlements in the private sector. In fact, average wage increases obtained by public sector workers have been four-tenths of one percent lower each year than wage increases obtained by private sector employees (based on Labour Canada's collective bargaining research files). Second, the economic structure of wage settlements in the public sector (excluding arbitrated settlements) is not dissimilar to the structure of wage settlements in the private sector. In particular, there is no clear empirical evidence that public sector wage rate increases have been less responsive to labour market conditions than wage changes in the private sector. In fact, average wage settlements in the public and private sectors have moved in a very similar cyclical manner over the 1968-83 period (see Figure 5-1). Finally, there is no empirical evidence that public sector wage settlements will, in general, spill over into the private sector and permeate throughout the entire economy. Any wage spillovers from the public sector would appear to be quite limited in nature, confined to specific urban areas and certain occupations. There is no empirical support for the proposition that one large public sector wage settlement, say, for Seaway workers or Toronto

teachers, will affect wage settlements throughout the entire private sector.

## Notes

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1. *Financial Post*, February 4, 1978, p. 6.
2. Ehrenberg (1973) finds that public sector employment demand is quite inelastic with respect to wages. "These results suggest that while state and local governments do respond to market forces in choosing their employment portfolios, these market forces do not appear to be sufficiently strong to limit the size of real wage increases which state and local government employees may seek in the future" (p. 378).
3. Hall (1975) finds that wages are "unresponsive" to labour market conditions in the U.S. "non-entrepreneurial" sector. Since "nobody is permitted to displace governments or the telephone company, [public sector] wage policies are thus insulated from the basic force of competition" (p. 321).
4. Also see Finkelman and Goldenberg (1983, chap. 8).
5. For a further discussion of the possible biases in focussing exclusively on public sector/private sector wage rates without considering fringe benefits, deferred wages and working conditions see Gunderson (1984).
6. Actual movements in the Consumer Price Index are employed for expired contracts and the lapsed portion of current contracts, and a 5 percent forecast inflation rate is used for the future portion of current contracts.
7. For the last quarter of 1983, the 5 percent average wage settlement in the federal sector actually exceeded the 4.4 percent average settlement obtained by more than 100,000 employees signing new contracts in the private sector.
8. Riddell and Smith (1982) employ monthly averages for this same set of underlying micro wage contracts.
9. Equations and variable definitions are taken from Cousineau and Lacroix (1977, pp. 36, 37, 49, 50 and 60).
10. In a footnote, Cousineau and Lacroix report that these coefficient differences between the public and private sectors are significant at the 1 percent level.
11. I wish to thank Robert Lacroix for bringing this sample composition problem to my attention and for providing me with a summary of his unpublished Quebec-Ontario comparative study.
12. As discussed above, most of the Quebec public sector wage contracts contained COLA clauses and were therefore excluded from the sample (only 6 percent of the public sector wage contract sample was from Quebec).
13. Since the specification of this price catch-up variable requires the deletion from the dependent variable observation set of all initial contracts (which are likely the first union contracts in the public sector), the Auld, Christofides, Swidinsky and Wilton sample again differs from the Cousineau and Lacroix sample which included initial wage contracts and finds that the first wage settlement for a new public sector union is unusually high (by about 4 percent a year).
14. For a discussion of the theoretical rationale for including such a price catch-up variable in the wage equation see Auld, Christofides, Swidinsky and Wilton (1979, pp. 52-66).
15. The computer *F*-value for parameter homogeneity is 2.11, smaller than the critical *F*-value of 2.37 (see Auld, Christofides, Swidinsky and Wilton, 1979a, p. 194).

16. Cousineau and Lacroix (1977) introduce a set of intercept dummy variables reflecting various settlement stages into their private sector wage equation (but not for the public sector). "Of the three forms of intervention, the only one with a positive and statistically significant effect on wage agreements is arbitration" (p. 110).
17. Statistical tests led Riddell and Smith to specify the price catch-up variable as "uncompensated" (not unexpected) past inflation — that is, the specification used by Auld, Christofides, Swidinsky and Wilton.
18. For the 1978–82 period, inflation was fairly constant, averaging 10.3 percent (plus or minus 1 or 2 percent), thus diminishing the need for an unexpected inflation explanatory variable. In a forthcoming study for the Ontario Economic Council, Auld and Wilton find that an inflation catch-up variable is insignificant in the Ontario public sector in the post-AIB time period (it was significant in the pre-AIB time period).
19. For a review of the wage spillover literature see Burton and Addison (1977) and Wilton (1980, chap. 6).
20. For further details on the specification of the reference groups and spillover variables see Auld, Christofides, Swidinsky and Wilton (1979a, pp. 127–35).
21. In all instances, the spillover variables were added to the original model, which included variables to proxy inflation expectations, price catch-up, and labour market conditions.
22. Dussault and Lacroix (1984) define a large urban area as one in which the labour force exceeded 160,000 in the 1971 census.

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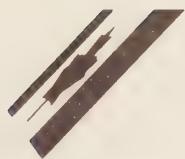
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# Occupational Health and Safety in Canada

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The safety of the workplace clearly affects the well-being of many Canadians. Industrial accidents or disease are often major tragedies for workers and their families. For this reason, issues relating to occupational health and safety have received considerable attention in the past 15 years. In addition to concern about the number of job-related injuries in Canada, there has been growing awareness of the serious nature of the problem of industrial or occupational disease. The increasing use of new chemical and biological agents in the workplace, experiences such as that with the mining and industrial use of asbestos, and advances in medical knowledge have contributed to this concern.

Policy makers have responded to the challenge. Indeed, in the past decade probably no area of Canadian employment law has undergone as much change as occupational health and safety. Yet a recent assessment by Richard Brown (1982, p. 118) concluded that "the response of the Canadian legal system to the challenges of a hazardous work environment displays serious deficiencies."

This paper examines issues related to occupational health and safety, discusses the various mechanisms available for reducing the level of risk faced by the Canadian work force, and assesses policy options that have been proposed to improve occupational and workplace health and safety.

## The Dimensions of the Problem

In 1983 job-related injuries or illnesses killed 761 people and disabling injuries resulted in the loss of 15 million working days. There were

952,000 work injury claims, a figure that suggests roughly one worker in nine made a claim because of being hurt on the job during the year.

To put these figures in perspective, 4.4 million work days were lost owing to work stoppages in 1983.<sup>1</sup> Furthermore, over the past decade, working time lost due to workplace injuries and illnesses has been increasing relative to that associated with strikes and lockouts. Time lost due to disabling injury increased from 7.3 million person-days in 1969 to 15.1 million person-days in 1983, an increase of over 100 percent, whereas time not worked due to work stoppages fell from 7.8 million to 4.4 million in the same period, a decrease of 44 percent. Moreover, it should be noted that the loss of working time which is attributable to fatal injuries and illnesses and permanent disability is not reflected in these data.

The costs of these deaths, injuries and illnesses are clearly very large. The main cost is obviously the suffering of the victim and his or her family. In addition, there may be loss of productive working time and thus income and output. Finally, there are the costs of resources devoted to medical and related care and to administering the occupational health and safety system. How these costs are distributed among the employee, the employer and society at large depends on a number of factors discussed later in this paper.

Table 6-1 shows the Canadian experience with workplace fatalities, disabling injuries and non-disabling injuries for the period 1969-83.<sup>2</sup> The data indicate that the disabling injury rate has been approximately constant since 1972, although higher than in 1969-71, whereas the non-disabling rate remained fairly constant at around 7 injuries per 100 workers until 1980, and has fallen since then. Hence the ratio of non-disabling to disabling injuries has fallen over time. The fatality rate declined significantly over this period. Furthermore, as discussed below and shown in Table 6-5, fatalities have declined in each industry; thus the decline in fatalities in the total private sector is not simply the result of changes in the composition of employment. (Rapidly growing industries such as finance and services have low fatality rates, so that as their share of employment increases the overall fatality rate will tend to decline.) In fact, calculations reveal that almost 90 percent of the decline in the overall fatality rate is the result of the decline in fatalities in each industry, and approximately 10 percent is due to changing industrial structure.<sup>3</sup>

In order to assess Canada's occupational health and safety performance, it is useful to look at the experience of other countries. Statistics from the International Labour Organization (ILO) shown in Tables 6-2 and 6-3 suggest that Canada's workplace injury rate (number of reported injuries/total employment) is high by international standards. This comparison of eight countries for which injury statistics are reported over the 1976-81 period shows Canada with the highest injury rate (approxi-

TABLE 6-1 Disabling and Non-Disabling Injury Rates,<sup>a</sup> 1969-83

Disabling Injuries per 100 Workers	Non-Disabling Injuries per 100 Workers	Total Injuries per 100 Workers	Fatalities per 100,000 Workers <sup>c</sup>
1969 <sup>b</sup>	4.41	7.66	12.07
1970 <sup>b</sup>	4.52	7.34	11.86
1971 <sup>b</sup>	4.57	7.01	11.58
1972 <sup>b</sup>	5.51	6.88	12.39
1973 <sup>b</sup>	5.85	7.31	13.16
1974 <sup>b</sup>	6.03	7.29	13.32
1975 <sup>b</sup>	5.53	6.86	12.38
1976 <sup>b</sup>	5.81	7.02	12.83
1977	5.46	7.00	12.46
1978	5.69	6.95	12.64
1979	6.08	7.13	13.21
1980	6.29	7.18	13.46
1981	6.27	6.66	12.93
1982	5.75	5.49	11.24
1983 <sup>d</sup>	5.59	5.26	10.85
			8.7

Source: Occupational Safety and Health Branch, Labour Canada.

a. Rates are understated since Statistics Canada estimates of employment are used. Not all persons employed in Canada are covered by Workers' Compensation.

b. Excludes Northwest Territories and Yukon.

c. Data on fatalities for 1969-71 are not available on a basis comparable to subsequent data.

d. Preliminary.

TABLE 6-2 Work Injury Incidence Rate in Selected Countries, 1976-81

	1976	1977	1978	1979	1980	1981
(injuries per 100 workers)						
Canada	11.02	10.78	10.77	11.22	11.37	11.00
United States	5.82	5.93	6.04	6.18	5.65	5.38
France	10.41	9.95	9.66	9.59	9.51	n.a.
West Germany	8.05	8.14	8.14	8.53	8.35	7.80
Norway	1.21	1.21	0.99	0.92	0.82	0.82
Sweden	n.a.	2.81	2.99	2.70	2.53	n.a.
Netherlands	2.11	2.02	1.83	1.81	2.15	1.51
Switzerland	7.01	7.35	7.45	7.61	8.35	8.04

Source: ILO Yearbook of Labour Statistics.

Note: As a rule, injuries resulting from occupational diseases or commuting accidents are not included. The statistics of occupational injuries are generally based on industrial accidents compensation data (Canada, Switzerland and Sweden) or compulsory accident reporting systems (United States, France, West Germany, Netherlands, Norway, Japan).

Total injuries are deflated by the total level of employment in each country as a proxy for number of persons "exposed to risk." However, these data suffer from lack of uniformity in definitions used and methods of computation and estimation.

The injury rates should be used with extreme care. The minimum duration of incapacity to which an accident must give rise in order to be included in the statistics varies greatly from one country to another. Also, the number of minor accidents is relatively high and there are differences in the nature of the sources, in the scope and in the methods of reporting or of compilation of statistics of occupational injuries.

TABLE 6-3 Fatality Rates in Selected Countries, 1976-81

	1976	1977	1978	1979	1980	1981
	(fatalities per 100,000 workers)					
Canada	11.16	9.77	10.02	10.21	9.77	8.78
United States	5.07	5.17	4.78	5.01	4.43	4.35
France	9.14	8.12	7.42	7.03	6.74	6.79
West Germany	18.07	17.44	16.93	16.31	14.99	14.47
Norway	8.38	7.51	6.90	8.12	9.46	5.02
Sweden	n.a.	3.73	3.57	3.23	2.98	n.a.
Netherlands	2.79	2.55	1.72	1.51	1.77	1.24
Switzerland	11.69	11.39	10.58	8.07	8.06	7.01
Japan	n.a.	n.a.	n.a.	5.62	5.44	5.22

Source: ILO Yearbook of Labour Statistics.

Note: See Table 6-2.

mately 1 worker in 9 injured on average), followed by France (1 in 10), Switzerland (1 in 13), West Germany (1 in 13), United States (1 in 17), Sweden (1 in 35), Netherlands (1 in 50), and Norway (1 in 100). These data should, however, be used with extreme care. The minimum duration of incapacity to which an accident must give rise in order to be included in the statistics varies widely from one country to another. This factor is important because the number of minor accidents is large. In addition, there are other important differences in the nature of the data sources and in the scope and methods of reporting or compilation of statistics on workplace injuries and illness. Thus it is possible that the high injury rate in Canada reflects differences in measurement and reporting rather than a more dangerous workplace.

Canada also fares poorly in international comparisons of workplace fatalities. West Germany has the worst record for fatalities, with approximately 15 to 18 fatalities per 100,000 workers over the 1976-81 period, followed by Canada (9 to 11), Switzerland (7 to 12), France (7 to 9), Norway (5 to 9), Japan (5 to 6), the United States (4 to 5), Sweden (3 to 4), and the Netherlands (1 to 3). Again, however, these statistics should be treated very carefully because of differences in reporting and classification of fatalities across countries.

The most relevant comparison is with the United States, given its proximity and similar industrial structure and institutions. Table 6-4 shows the incidence rates for total injuries and disabling injuries (including occupational illnesses) for Canada and the United States from 1972 to 1982. The U.S. rates are considerably below ours and appear to exhibit a more favourable downward trend.<sup>4</sup>

Injury rates differ substantially across industries, so the higher Canadian rates could result from the fact that a larger proportion of the Canadian labour force works in hazardous industries and occupations. Unfortunately, a comparison of Canada-U.S. injury rates by industry cannot be carried out because these statistics are not collected in Canada. A comparison of fatality rates by industry is feasible and useful,

**TABLE 6-4 Injury (and Illness) Incidence Rates for Canada and the United States, 1972–83**

	Canada		United States <sup>a</sup>	
	Total Injuries	Disabling Injuries	Total Injuries	Disabling Injuries
(per 100 workers)				
1972	12.39	5.51	10.9	3.3
1973	13.16	5.85	11.0	3.4
1974	13.32	6.03	10.4	3.5
1975	12.38	5.53	9.1	3.3
1976	12.83	5.81	9.2	3.5
1977	12.46	5.46	9.3	3.8
1978	12.64	5.69	9.4	4.1
1979	13.21	6.08	9.5	4.3
1980	13.46	6.29	8.7	4.0
1981	12.93	6.27	8.3	3.8
1982	11.24	5.75	7.7	3.5
1983	10.85	5.59	7.6	3.5

Source: *Occupational Injuries and Illnesses in U.S. by Industry*, U.S. Bureau of Labor Statistics and Occupational-Safety and Health Branch, Labour Canada.

a. U.S. data are for the private sector (excluding the three levels of government). Data for 1972 do not include estimates for agricultural production, railroads and most of mining. Data for 1976–82 exclude farms with fewer than 11 employees.

**TABLE 6-5 Fatality Rates in the Private Sector in the United States and Canada, 1972–82**

Year	Total Private Sector		United States
	Canada	(per 100,000 workers)	
(per 100,000 workers)			
1972		17.8	9.4
1973		18.3	8.9
1974		18.5	9.0
1975		14.7	8.2
1976		13.3	7.0
1977		11.5	9.0
1978		11.7	7.7
1979		12.1	8.0
1980		11.9	7.1
1981		10.3	6.9
1982		10.8	6.5

not only because fatalities are the most serious outcome of workplace accidents, but also because there is a statistically significant positive correlation between the incidence of fatalities by industry and that of non-fatal injuries and illnesses.<sup>5</sup>

Tables 6-5 and 6-6 show fatality rates in the two countries, for the total private sector and by industry, respectively. Fatalities are consistently higher in Canada, though the gap has narrowed somewhat because the fatality rate for the total private sector declined about 40 percent in

**TABLE 6-6 Number of Fatalities per 100,000 Workers by Industry in Canada and the United States, 1972-82**

Year	A. Agriculture Forestry and Fishing		B. Mining	
	Canada	United States	Canada	United States
1972	61.0	n.a.	141.3	n.a.
1973	74.9	14.1	143.4	62.7
1974	66.2	20.4	152.3	57.6
1975	54.9	19.1	120.2	53.7
1976	53.0	10.0	117.9	51.2
1977	43.3	10.3	90.3	61.8
1978	51.2	11.3	83.0	43.8
1979	60.2	12.6	93.4	55.1
1980	43.9	17.4	98.7	48.5
1981	42.1	15.4	70.8	47.8
1982	48.0	24.7	94.5	41.1

Year	C. Manufacturing		D. Construction	
	Canada	United States	Canada	United States
1972	15.5	7.4	51.7	42.6
1973	37.4	14.6	53.1	24.8
1974	16.8	7.0	52.1	30.3
1975	12.6	6.5	48.4	28.9
1976	11.0	6.4	41.6	22.4
1977	10.1	6.1	36.6	33.9
1978	10.3	5.9	37.8	30.5
1979	8.7	5.4	38.3	30.6
1980	7.6	5.5	40.0	26.7
1981	7.7	5.1	36.6	26.8
1982	10.3	3.9	34.9	24.1

Year	E. Transport		F. Trade	
	Canada	United States	Canada	United States
1972	32.5	28.1	6.2	4.5
1973	37.4	29.4	6.9	5.4
1974	33.2	25.6	8.8	4.1
1975	28.3	22.2	5.4	5.3
1976	27.9	17.7	4.4	4.0
1977	22.1	25.5	5.2	3.8
1978	25.7	18.7	4.4	4.5
1979	25.9	19.7	4.4	6.2
1980	26.1	17.4	4.7	3.7
1981	23.3	16.0	3.7	4.7
1982	21.3	20.7	4.3	3.2

Year	G. Finance		H. Services	
	Canada	United States	Canada	United States
1972	1.8	2.5	9.1	4.1
1973	1.6	2.5	4.8	3.2
1974	1.7	2.4	4.7	4.5
1975	0.7	2.4	3.6	2.9
1976	2.3	1.2	2.6	4.2
1977	1.9	4.5	2.6	4.7
1978	1.2	5.4	2.2	3.0
1979	1.0	2.2	2.8	2.8
1980	1.5	3.7	3.1	2.5
1981	1.7	2.9	2.8	2.5
1982	1.1	2.4	2.8	2.9

*Source:* *Occupational Injuries and Illnesses in the U.S. by Industry*, various years, U.S. Bureau of Labor Statistics, and Occupational Safety and Health Branch, Labour Canada, and calculations by the authors.

*Note:* Fatality rates are calculated as the number of fatalities in the industry divided by average annual full-time employment in the industry multiplied by 100,000. Total private sector figures include all sectors of the economy except the three levels of government. Different collection procedures in the two countries required the use of this very broad definition of the private sector. The 1972 services figure for the United States includes agricultural services, forestry and fishing. The Canadian figure has been adjusted to include these activities for that year. U.S. data since 1976 excludes farms with fewer than 11 employees. In 1978, in response to a presidential directive, employers with 11 or fewer employees in low risk industries were not selected to participate in the U.S. survey. Annual average employment from 1978 is accordingly adjusted, using County Business Patterns, to exclude establishments with fewer than 11 employees. The sample reduction results in larger sampling errors in the fatality data, making detailed comparisons of questionable reliability.

Canada versus about 30 percent in the United States during this decade. Almost without exception, fatalities are higher in each industry in Canada. The reasons for these dramatic differences are unclear. The differences may primarily reflect differences in the data collection and reporting procedures used, or they may be due to a more dangerous workplace in Canada. Certainly, research on the causes of this gap is warranted.

Given the high fatality rates in Canada, it is informative to examine the causes of these deaths. Table 6-7 breaks down the average number of deaths in Canadian industry by type of accident during the period 1975-83. Over one quarter of all deaths that occur at the workplace "during the course of employment" are due to transport accidents involving collisions, crashes and derailments of various kinds of vehicles. The next highest cause of fatalities are deaths due to the victim being struck by or against some object (15 percent) and deaths due to occupational illnesses (12 percent).

Table 6-8 indicates the industries in which occupational illness fatalities are most likely to occur. The seemingly large role played by

**TABLE 6-7 Average Number of Fatalities in Canadian Industry by Type of Accident, 1975-83**

Type of Accident	Average Number of Fatalities per Year	Distribution (percent)
Transport (including collisions, crashes, derailments, etc., of motor vehicles, ships, planes, trains and industrial vehicles)	278.7	27.2
Struck by or against (including stepping on, landslides and cave-ins)	155.6	15.1
Caught in, on or between (including machinery, industrial vehicles, etc.)	76.8	7.4
Slip and falls (on same or different levels)	90.8	8.8
Drownings and asphyxiations (including boat accidents and falls into water)	45.1	4.3
Cardiovascular strain (including arterial diseases, cerebrovascular diseases, etc.)	57.9	5.7
Overexertion (including strains, hernias, etc.)	9.8	1.0
Systemic poisoning (including injuries affecting functioning of an entire body system such as poisoning, corrosive action affecting internal organs, damage to nerve centres, etc.)	10.3	1.0
Occupational illnesses (silicosis, asbestosis, radiation effects such as lung cancer, etc.)	119.7	11.7
Fire, explosions, temperature extremes (including related deaths from asphyxiation, falls, and being struck by flying objects from explosions, etc.)	31.9	3.1
Contact with electric current (including lighting)	37.0	3.6
Late effects (death more than one year after initial accident and deaths of workers who were on pensions for an earlier disabling injury)	58.3	5.8
Miscellaneous (homicides, suicides, bites, stings, and unspecified causes)	55.2	5.4
<b>Total</b>	<b>1,027.0</b>	<b>100.0</b>

*Source:* Occupational Safety and Health Branch, Labour Canada, and calculations by the authors.

TABLE 6-8 Occupational Illness Fatalities by Industry, 1975-83

Industry	Occupational Illnesses								
	1975	1976	1977	1978 <sup>a</sup>	1979 <sup>a</sup>	1980 <sup>a</sup>	1981 <sup>a</sup>	1982	1983
Agriculture	0	0	0	0	0	0	0	0	0
Forestry	0	0	0	0	0	0	0	0	0
Fishing	0	0	0	0	0	0	0	0	0
Mining	89	77	51	53	58	67	52	48	48
Manufacturing	47	44	44	31	28	30	40	49	32
Construction	8	9	8	3	7	10	6	13	14
Transportation	4	2	2	2	1	4	1	6	3
Trade	3	0	0	1	2	0	1	0	1
Finance	0	0	0	0	0	0	0	0	0
Service	1	0	0	2	4	1	3	3	2
Public Administration	3	0	0	3	5	0	2	1	1
Unspecified	0	0	0	0	1	2	0	0	0
Total	155	132	105	95	106	115	105	120	101

Source: Canada, Department of Labour, Occupational Safety and Health Branch.

a. Data not available for Quebec.

occupational illnesses in the fatality figures is not mirrored in the number of non-fatal injury claims. Weiler (1983) points out that of the 411,476 claims allowed by the Ontario Workers' Compensation Board in 1980, only 7,611 were compensation claims for disease, a mere 1.8 percent of total claims. Of these 7,611 claims, over 80 percent were for burns, toxic fumes, deafness and dermatitis. It is not even clear whether these claims should be labelled industrial disease rather than industrial injury. Weiler (1983, p. 18) argues that these figures are not peculiar to Ontario and that the Ontario Workers' Compensation Board has been the pace setter in compensating serious disabling diseases, especially cancer.

The problems of dealing with occupational illness arise because it is difficult to establish the cause of many diseases and such diseases are often characterized by long periods between contraction and manifestation. Occupational injuries are tangible: it is easy to establish the cause of an accident when a faulty guard rail causes a worker to fall and break a leg. However, it is more difficult to establish that the workplace is responsible for a disease with a long latency period and which may have been caused by or partially related to the worker's extraemployment activities. For example, lung cancer may have been caused by exposure to an unknown carcinogen at the workplace interacting with the environment and/or the worker's smoking habits. In order for the compensation board to allow the claim, the victim must establish that the workplace was the primary cause. This is not an easy task.

With the steady invasion of carcinogenic and toxic substances into the workplace and the general environment, concern about industrial disease has risen. In the United States one-half million chemicals are

produced and used, 3,000 chemicals are developed annually and 500 of these are employed in industry annually (Manga et al., 1981, p. 41). Given the proximity and industrial integration of the two countries, the figures are probably similar for Canada. The potential harms associated with this vast number of materials cannot be determined immediately. A growing number of people are thus exposed to substances with unknown consequences. Accompanying this growing awareness of the problem of industrial disease are attempts to ensure the more equitable treatment of disease victims and to introduce standards or other mechanisms that can effectively control hazards in the workplace.

## **Mechanisms for Dealing with Occupational Health and Safety**

In dealing with the problem of occupational health and safety, the central concerns are prevention and compensation. Three separate but interrelated mechanisms exist for dealing with these concerns: competitive market forces, the collective bargaining process and regulation. The role that each mechanism may play in prevention of injuries or illnesses and compensation for victims is examined next.

### ***The Market Mechanism***

If workers are aware of the risk of job-related injury or illness, market forces will cause employers to pay a wage premium for hazardous work. This wage premium performs three key functions: it provides some compensation to the employee for the risk, it provides the firm with an incentive to reduce the risk of injury (because doing so enables the firm to pay a lower wage premium and thus lowers labour costs), and it ensures that the price of the product reflects the risk of injury or illness associated with its production, since higher costs of production will be reflected in higher product prices. Even though the market mechanism may not operate in a fully satisfactory way, these functions are important in the prevention of and compensation for workplace injuries and illnesses.

The existence of compensating wage differentials for hazardous work has been discussed by economists as far back as Adam Smith in the *Wealth of Nations*. A modern statement of the theory of compensating differentials is provided in the model developed by Rosen (1974). After describing this model briefly, we will examine the main empirical findings relating to compensating wage differentials.

Rosen's model shows how compensating wage differentials and employment in different jobs are determined under assumptions of competitive markets, perfect information and fully mobile labour. If workers are averse to the risk of job-related injury and aware of the risks involved, a more hazardous job will require a higher wage, other things

being equal.<sup>6</sup> Holding all other job characteristics constant, an employer will have to pay a wage premium in relation to the degree of workplace job risk.<sup>7</sup> Workers who are risk averse will choose lower paying but safer jobs, while workers who are less risk averse will choose higher paying but riskier jobs. In this sense, an individual worker can purchase the amount of safety desired at a “price” of foregoing the wage premium for hazardous work. The more risk averse worker is willing to pay a higher price.

In a competitive equilibrium the firms earn a “normal” rate of return; thus the employer faces a tradeoff between the wage rate which can be paid to employees and expenditure on workplace health and safety (holding constant non-wage compensation). The profit-maximizing employer will compare such costs as higher wage premiums, lost production and damaged machinery with the costs of installing and overseeing safety methods and procedures. Different firms will achieve lower risks of injury with varying degrees of ease, depending on the production technology. The model predicts that, in equilibrium, wages will rise as the risk of injury associated with the job increases, and the more risk averse workers will be matched with firms that find it relatively inexpensive to install safer production methods and avoid paying a risk premium, and vice versa for the less risk averse workers. The outcome of the job-matching process will be socially optimal. In these circumstances, the imposition of legal standards to restrict the level of permissible risk will, in general, be detrimental to social welfare. If workers are well informed about the risks inherent in the job and sufficiently mobile to change jobs if they are not compensated sufficiently, then other mechanisms may be unnecessary and, indeed, harmful.

Market forces should thus result in higher risk of workplace injury being accompanied by wage premiums. It is of paramount importance to establish the strength of this relationship empirically in any discussion of the role of the unregulated market mechanism in providing occupational health and safety.

Empirical testing is confounded by the myriad of job characteristics that affect wage levels and preferences for safety. A simple correlation between income and degree of risk endured will generally be negative because, as people become wealthier, their preference for safety intensifies. However, as explained above, the partial correlation between income and level of risk should be positive. Controlling for all the factors that affect wages and incomes is essential to obtain meaningful results.

The empirical studies suffer from data limitations common to much econometric research. The limitations are especially severe in this area, so should be briefly noted. A number of factors which may influence earnings — such as the amount of on-the-job training, the pleasantness of the work environment and other job characteristics — are either not observed or are crudely assessed. Measures of job risk are particularly

imperfect (Rosen, 1981; Mitchell, 1982). Objective measures are usually confined to the number of fatalities and/or injuries and illnesses in the industry. In some cases, measures of the severity or duration of injuries and illnesses are available. These risk measures do not allow for differences across firms in the industry or among different types of employees. The data on illnesses are especially poor. Fatalities and/or injuries by occupation have also been used in some studies. These suffer from the potential limitation that the same occupation may be riskier when employed in some industries than in others. Clearly aggregate data — whether by industry or occupation — may mask considerable underlying variability.

Subjective measures — obtained by surveying individual workers about the hazardous nature of their job — are individual specific but have their own limitations. They are necessarily subjective, though some evidence suggests that objective and subjective measures tally well (Viscusi, 1978b), and it is the workers' perception of the risk that affects behaviour. In addition, the subjective measures usually distinguish between "hazardous" and "not hazardous" jobs. Either category will contain a wide variety of risky situations.

Despite these difficulties, there is a growing body of empirical work attempting to estimate compensating wage differentials for hazardous work. The empirical evidence obtained in the 1970s has been reviewed in Smith (1979), Brown (1980), and Gunderson and Swinton (1981). More recent evidence is contained in studies by Viscusi (1980), Olson (1981), Marin and Psacharopoulos (1982), Dorsey (1983) and Dickens (1984). These studies are briefly reviewed here, and their implications discussed.

Perhaps the most salient finding is that a significant wage premium is associated with the risk of a fatal injury on the job. The magnitude of the estimated compensating wage differential varies considerably, depending on the data and econometric specification. Studies using fatality rates by industry (e.g., Smith, 1976; Viscusi, 1978b) estimate much larger wage premiums than those using risks by occupation (Thaler and Rosen, 1975; Brown, 1980).<sup>8</sup> The general finding, however, is a significant wage premium, which provides firms with an economic incentive to reduce the risk of fatal accidents in the workplace.

The evidence with respect to the effects of the probability of non-fatal injuries on wages is more equivocal. When both fatal and non-fatal injuries are included as explanatory variables, the risk of non-fatal injury is often not found to have a statistically significant positive effect on earnings. The empirical studies do, however, generally support the prediction that compensating differentials increase with the severity of the injury. This is most evident in the fatal versus non-fatal case, but also occurs when permanent and temporary injuries are distinguished. There is some evidence (Arnould and Nichols, 1981) that compensating differentials decrease as ex post compensation increases (e.g., through workers' compensation).

A number of studies have investigated the impact of unions on workplace health and safety and on the magnitude of compensating wage differentials. Most studies find a positive gross correlation between unionization and the incidence and duration of workplace injuries. There are several possible explanations for this observed relationship. Unionized workers, because they are better protected from arbitrary treatment by managers, may be more likely to report the workplace accidents that do occur, or to take time off from work when injured. Alternatively, management may respond to the higher wages paid unionized workers by increasing the pace of work, which in turn may result in a more dangerous workplace.<sup>9</sup> However, the causality may run in the opposite direction; that is, employees in a dangerous work setting may be more likely to choose to be represented by a union. The one study that did test for both possibilities (Olson, 1979) found evidence that causality runs in both directions. Unionization appears to be more likely in risky work settings but also recorded workplace accidents are more common in unionized firms.

There is conflicting evidence regarding the impact of unions on the magnitude of compensating differentials. U.S. studies (e.g., Viscusi, 1980; Olson, 1981; Dorsey, 1983) typically find that wage premiums associated with the risk of fatal injuries are significantly larger for union than non-union workers, after controlling for the non-risk-related union wage effect. However, the results with respect to non-fatal injuries are more ambiguous. Furthermore, Marin and Psacharopoulos (1982), using U.K. data, obtain the opposite result: that compensating differentials are not larger for unionized workers. There is no Canadian evidence on this issue.

A number of explanations have been advanced for the general result of the U.S. studies that compensating differentials are considerably larger in the union than the non-union sector. Viscusi (1980) emphasizes the union's tendency to articulate the preferences of inframarginal workers, whereas in competitive markets the equilibrium wage differentials reflect the preferences of the marginal workers. Alternative explanations include unions having access to superior information on job-related risks (Dorsey, 1983) or simply unions' bargaining power (Dickens, 1984). None of these explanations suggest reasons for the conflicting results obtained with U.S. and U.K. data. Clearly, the impact of unions on workplace health and safety, and the extent to which this impact operates through compensating wage differentials, remains an important issue for future research.

Hinton (1980) is the only Canadian evidence available on compensating wage differentials. This is unfortunate given the differences in work injury experience between the United States and Canada discussed earlier, and the differences in unionization rates and occupational health and safety programs. The data used are from the Ontario Workers' Compensation Board on non-fatal injury claims by level of hazard for

manufacturing and construction. The results show that a positive compensating wage differential does exist to cover risk not completely insured against by workers' compensation.

Risk premiums may manifest themselves in non-wage compensation. Dorsey (1983) allows for the possibility that workers will be compensated for dangerous work in the form of pensions with liability provisions, liberal sick-leave policies, and health, life and accident insurance. The data used come from the U.S. Employers' Expenditures for Employee Compensation survey, which allows a measure of the "full wage" to be calculated. Job risk measures used were non-fatal occupational injury rates, fatality rates, and average number of lost workdays per accident. The results indicate a strong correlation between non-fatal risk measures and non-wage compensation, which suggests that standard earnings equations could substantially underestimate the absolute size of the premium received for hazardous work. In a study of the paper industry, Allen (1981) reaches a similar conclusion. Other results reported by Dorsey indicate that non-wage compensation is more significant in the presence of a union and for more highly skilled workers and older workers. This study also presents evidence that a tradeoff exists between higher workers' compensation benefits and lower wage and other benefits, implying that the worker, in effect, purchases insurance against hazardous work.

In conclusion, the empirical estimates indicate that a significant wage premium is forthcoming in the face of risk of fatal injuries or illness on the job. The evidence on non-fatal injuries and illnesses is less clear cut, with some studies finding negative premiums or insignificant positive premiums. This volatility could be due to inadequate controls for other variables or insufficient data. Alternatively, because these injuries are at least partially compensated *ex post* by Workers' Compensation, the *ex ante* wage premiums may be too small to show up in the data, given all the other factors, both random and systematic (but unobserved), that influence wages. In the U.S. studies that measured the impact of unions on the wage premium, the union sector was able to call forth a larger premium than the non-union sector for increased risk of fatal injuries. Here again the evidence for non-fatal injuries was less definitive. In addition, conflicting results were obtained with U.K. data.

What are the policy implications of this empirical literature? Smith (1982, p. 327) concludes that the empirical evidence supports the view that market forces operate to allocate employment-related risks efficiently, at least those associated with injuries (as opposed to health). The basis for this conclusion is the general finding of a significant wage differential for risk of fatal injury. Although market forces appear to be operating in the right *direction*, it is very difficult to determine whether the *magnitude* of their impact is socially desirable; that is, whether observed compensating differentials result in sufficiently large incen-

tives to reduce workplace hazards. Furthermore, more research is required to isolate the difference in the response of the union and non-union sectors in the face of hazardous working conditions. It may be that compensating differentials estimated on the basis of the full sample, the basis for Smith's policy conclusion, are due largely to union behaviour rather than market forces. At the very least this suggests the need to look at other mechanisms.

Before leaving this section, it is worth reiterating that the studies reviewed here (with the exception of Hinton's 1980 limited and unpublished investigation) are based on U.S. and U.K. data. Despite the importance of occupational health and safety to many Canadians, very little is known about the operation of market forces in this area.

### *The Rationale for Other Mechanisms*

This section discusses the reasons why unregulated market forces may fail to provide an adequate level of workplace health and safety. In the previous section we noted that with full information the outcome of competitive market forces is a socially optimal matching of workers and firms providing different combinations of safety and worker compensation. Less risk averse workers are employed by firms who find it most costly to install safety measures and are compensated accordingly. In this scenario, introduction of regulation that would limit the amount of risk that a worker may be exposed to could lead to a reduction in the utility of less risk averse workers who would have to accept employment with lower wages (or maybe even unemployment if many firms find it unprofitable to adhere to new regulations).

The competitive paradigm assumes all agents have equal access to perfect information regarding the nature of workplace hazards, both injuries and illnesses. All costs, both direct and indirect, are internalized to the firm so that the social and private costs of production in hazardous industries coincide. When these assumptions are violated, provision of health and safety in the workplace will not be optimal, and it is argued below that their provision will be suboptimal.

In general, economists discuss market failure and need for regulation or other forms of intervention as an efficiency issue. However, equity issues may also provide a rationale for alternative mechanisms. Possible sources of inequity, both horizontal and vertical, are discussed at the end of this section.

### *Efficiency Issues*

The most fundamental problem in the optimal provision of health and safety is the imperfect information and knowledge about the risks associated with various jobs and the asymmetry of the information that is available (in particular, the fact that firms will often have better information than workers). The efficient matchup of jobs and workers will be

confounded if the amount of risk associated with various jobs cannot be determined. Workers will be unable to make correct occupational choices if they cannot observe the relevant parameters. Viscusi (1979, 1983) suggests that, in many cases, workers who are not fully cognizant of the attendant risks of a job may learn from on-the-job experience. If the wage-risk level combination offered by the employer is unfavourable, the worker will respond by quitting and seeking alternative employment. This may reduce some of the problems associated with workers having inadequate information about job risks. However, there are some fundamental difficulties with reliance on this mechanism. Many risks will not be evident even to the worker who is exposed to them daily. In particular, many occupational diseases have long latency periods and an individual worker may not observe any manifestation of them at the workplace. The impact of on-the-job learning depends on the ability of the worker to adapt this knowledge for future job choices. Unfortunately, many job hazards cannot be isolated by experience and exposure but must be subject to detailed research to determine their consequences. Viscusi argues that the inability of workers to determine the exact nature of the occupational risk will have an important impact on future job decisions. Workers will exhibit a predilection for jobs posing risks that are not well understood. Hiring and training costs will be very high for an employer who is faced with this type of learning-induced quitting, because of high labour turnover. The employer could attempt to reduce the level of quitting by providing complete job risk information or by using a technology whose risks are well known. However, this solution would entail paying a wage premium commensurate with the level of risk. Meanwhile his competitors can cut their hiring and training expenditures, adopt a technology with unknown risk properties, pay a lower wage and experience high labour turnover. This perception leads Viscusi (1983) to the conclusion that “If we assume workers’ risk perceptions are unbiased, the firm has the incentive (in terms of lower wages) to adopt a technology whose risk is *not* well known” (p. 70). The costs of such a technology in terms of the injuries and illnesses it generates are not internalized in the costs of the firm.

The failure of the private market to provide the pertinent information on job hazards can be analyzed as the private underprovision of a public good. Any one employer has no incentive to incur the substantial costs of producing information on the nature of job risks facing employees (assuming, for the moment, that such information can be determined).<sup>10</sup> The employer would be unable to recoup these costs from other firms offering similarly hazardous jobs because they will merely free ride. A further problem arises because the employer may be unwilling to reveal the chemicals and other dangerous substances used in the production process for fear that a competitor may replicate the product. Brand names often hide the identity of the potentially dangerous contents.

Furthermore, there may be substantial costs in disseminating and interpreting information. This gives rise to much asymmetry of information between management and employees, management and the government, unions and unorganized workers, and large firms and small firms. Employers may not provide information at their disposal to their employees as doing so would imply the need to pay higher wages or install safer equipment to continue to attract employees. Equally, the employer may attempt to downplay the hazards of his production process to the government, who, with adequate information, may intervene and impose restrictive standards or penalties for such methods. Unionized workplaces may have better channels of information about potential hazards, as union leaders may be able to interpret new medical findings on hazardous substances and alert the workforce. Non-unionized workers may have few rights established to obtain access to information and less ability in interpreting new information. Gunderson and Swinton (1981, p. 43) raise the problem of immigrant workers with poor English who may be severely limited in their access to the relevant information regarding the hazards and the precautions that should be taken at the workplace.

The above discussion suggests that the operation of market forces will be improved by providing the right incentives to employers to obtain and reveal information or introducing a central agency for the collection and dissemination of information to all concerned parties. However, there is a more fundamental problem when occupational disease, in particular, is considered. Most occupational diseases are characterized by long periods between exposure to the hazard and manifestation of the disease. For example, this period is usually between 20 and 30 years for asbestosis. This is compounded by the fact that most diseases are multicausal in nature, making it impossible to determine what contribution the workplace made to their appearance, as opposed to the other aspects of the worker's lifestyle. New chemicals and synthetics are being developed daily and incorporated into new production processes without adequate consideration of their possible disease-generating or carcinogenic properties. To determine the exact health consequences of such a large number of chemicals, separately and when they are used in combination, is a monumental task for our industrial scientists and doctors, even if the proper resources were available. It is often difficult to extrapolate from tests on animals to the likely effects on humans. Epidemiological studies have been few and far between and have found long and variable latency periods that may differ across individuals.

These informational problems can lead to a divergence between the social costs of production and the costs faced by private producers who operate a hazardous technology. The burden of this discrepancy falls in part on the workers employed in hazardous occupations and in part on society, which must also bear the costs of having some of its members

injured and diseased. The workers and society in general are subsidizing the employer and the consumer of the hazardous product. For example, there are substitute materials to replace asbestos in brake linings or insulation that have been used in Europe, yet asbestos is still the predominant material used in North America, despite its known health consequences (Manga et al., 1981, p. 80). Its use is continued because its costs have not been internalized by the user firms. If the product price were higher (reflecting the social cost of producing the hazardous product), the use of substitute materials would be encouraged.

This kind of market failure is especially prevalent in the case of workplace illnesses. The firm is unlikely to be concerned with diseases that will only manifest themselves 20 years into the future, knowing that the victim will have an impossible task to establish liability given the lapse between exposure and outbreak of the disease and the multiple etiologies of most of these diseases. The worker will fail to receive a sufficient wage premium given the uncertain state of knowledge surrounding the multitude of chemicals employed in industry today. A firm which is put out of business following a discovery that one of its inputs is lethal may owe the victims of this input nothing in compensation.

Workers' compensation schemes only go part way in internalizing the cost of a hazardous workplace. They are fundamentally injury oriented and victims of industrial diseases have had virtually no success in receiving compensation. The present schemes are not fully experience-rated so that a firm with a particularly poor record passes this liability on to all other firms in its industry group and only bears a fraction of the increased compensation payments. Compensation to the worker may cover lost earnings on a temporary basis but it does not attempt to remunerate the full cost of an injury (e.g., the psychic costs of pain and suffering). Furthermore about 20 percent of workers in Canada are not covered by workers' compensation and they and society must bear the full cost of their treatment and social services if they are injured.

It is difficult to be specific about the direct and indirect costs of industrial accidents and their incidence because little research has been carried out in this area. However, given the empirical evidence which suggested that wage premiums may be very small for anything less than the risk of death, and the evidence on the paucity of disease claims accepted by the Ontario Workers' Compensation Board, it appears unlikely that the true costs of industrial injuries and illnesses are internalized to the relevant decision makers.

### *Equity Issues*

The ability of an individual worker to choose the level of risk he encounters in the workplace has been the subject of much discussion. Viscusi (1979, p. 83) derives his analysis on the premise that the worker voluntarily accepts a certain level of risk in return for some offsetting advan-

tage. The less risk averse the worker, the more likely he is to choose a hazardous job which offers a higher level of compensation. Manga et al. (1981, p. 96) assess the nature of risk in terms of “(a) the degree to which the decision to undertake the risk is collective or individual; (b) the extent to which there is voluntary choice in avoiding the risk; (c) the extent to which there is randomisation versus selective victimisation of harm that results from the risk.” These considerations lead to a discussion of intervention on equity grounds rather than efficiency grounds as discussed above.

Society as a whole may believe that we desire products that require the use of asbestos in their production without due regard to the workers who will be exposed to this hazardous material. It is essential that society is willing to pay the full cost of such a process and that the worker is fully compensated for the danger he or she undertakes. Unfortunately, it is often the most powerless people who must take the dangerous jobs. Many workers are highly immobile, both geographically and occupationally, owing to family ties, unemployment, job specific skills, and the like, and are unable to pose a credible threat to an employer who fails to provide adequate safety conditions, given the compensation. Some workers face the double jeopardy of working in a plant which has dangerous exposure levels and living near this plant which emits the dangerous substances into the surrounding area. This discrimination generates so-called vertical inequity. These workers are being provided with insufficient compensation and therefore are subsidizing employers and consumers of their final good. It is important, however, to consider the consequences of intervention in terms of the impact on these workers. If a new regulation were introduced that, in effect, forced the firm out of business because it could not feasibly meet the new standard, many of the workers will join the ranks of the unemployed. It certainly is not clear that the regulation is desirable in this manner. These layoffs will often occur in high risk industries where little formal training has been provided. Who should pay for the retraining and reemployment of such workers? This is one of the questions that must be answered before restrictive standards are imposed.

To ensure *ex ante* horizontal equity, each worker facing a given level of risk should demand and receive the same compensating wage differential. However, only a few are injured or killed on the job and bear substantially more costs, including pain and suffering, than their uninjured co-workers, so that wage premiums on their own will be horizontally inequitable *ex post*. Workers' compensation benefits attempt to redress some of this inequity but they are far from being complete. In an ideal world we could hypothesize a perfect insurance scheme where victims of occupational injuries and illnesses would be fully compensated — direct and indirect costs of their accident or disease — and this would ensure *ex post* horizontal equity. In actual fact, such a scheme

would not work owing to the prohibitive costs of establishing the monetary value of such indirect costs as loss in potential earnings, loss of human capital, and amount of pain suffered by the victim, in addition to the moral hazard problems.

The empirical evidence presented in the section on the market mechanism suggested some further horizontal inequity between union and unorganized workers. The union's powers of information collection and distribution may arm it with more powerful bargaining tools, in terms of knowing the hazards of the workplace more precisely, to demand a more adequate wage premium for hazardous work. The unorganized worker has less of such information and may be unaware of the hazards faced.

However, union actions could also help unorganized workers by providing access to information and research carried out by the unionized sector of their industry. The threat effect of future unionization may force non-union employers in the same industry to pay wage premiums similar to those received by union members.

### ***The Collective Bargaining Mechanism***

Unions and collective bargaining may improve the level of health and safety in the workplace through a variety of channels. First, the establishment of a written contract and formal grievance and arbitration procedures ensures that the management fulfil certain obligations to protect its work force. Among the issues usually included in the contract are working conditions such as workplace safety, rights to refuse overtime, and methods of production. The union assists the employer in administering the provisions of the contract and provides a channel of communication for the workers to voice their concerns. Issues often considered the prerogative of management in the non-union sector may fall on the bargaining table when a union is present. In particular, issues concerning the installation of new equipment and protective devices and the design of new plants are usually considered to be management decisions, but co-operation with the union on these issues could reduce accident rates with the consequent improvement in productivity and reduction in premiums to the accident fund.<sup>11</sup>

Second, the union bases its demands on the preferences of intra-marginal workers rather than the preferences of the marginal workers who determine the outcome in a competitive market setting. If the average worker is more risk averse than the marginal worker, the presence of a union will generate a safer work environment and/or elicit higher wage premiums (Viscusi, 1983, pp. 53–58). The empirical evidence discussed earlier indicated that in the United States unionized workers generally receive a larger wage premium for hazardous work than those in the non-unionized sector, although conflicting results have been obtained for the United Kingdom.

Third, as argued by Swinton (1982), the contract negotiation procedure can be used to establish standards and procedures to ensure workplace health and safety over and above those set out in the relevant legislation. The union and employer, who are familiar with the particular conditions of the workplace, can tailor the uniform industry-wide minimum standards to deal with their firm-specific concerns. Particularly when dealing with safety issues, there are mutual gains to both parties to initiate changes that reduce the number of accidents and make the workplace less hazardous. The legislated standards serve as a foundation from which to improve the working conditions. However, labour and management perceptions are likely to diverge over the healthiness of the workplace, especially when the causal links between exposure to certain inputs and disease are uncertain and reduction or elimination of this exposure is costly. Anecdotal evidence suggests that the collective bargaining mechanism has had some success in eliminating health hazards; Swinton (1982, p. 152) cites the example of the United Automobile Workers and Crothers Ltd., who agreed to phase out chemical trichloroethylene. The United Steelworkers have trained members to take dust and noise tests. The collective bargaining mechanism can complement the legislative mechanism in this way.

Fourth, the union has superior resources, in terms of full-time experts, to interpret new standards and legislation and to translate these comprehensibly for its members on the shopfloor. One of the main reasons for the probable failure of the market mechanism to provide the efficient level of occupational health and safety is the lack of information regarding the correct safety procedures and the critical exposure levels. The union can facilitate the flow of information and therefore allow workers to make more informed career choices.

The union has a further potentially important role to play in the transmission of information, this time from workers to employers and workers' compensation boards. Industrial scientists and doctors agree that, in order to study the etiology of many work-related diseases, comprehensive medical histories of workers in hazardous industries must be maintained. Some of the most vociferous opposition to the collection of such medical records has come from the workers themselves who believe that the information would be used to discriminate against workers who have a previous poor health record. The union can safeguard the worker from discrimination and, at the same time, ensure adequate surveillance over his working life so that, should he contract a disease, the possible causes can be traced back through his various employers.

Fifth, evidence suggests that the union bolsters the efficacy of the joint health and safety committees (discussed below) mandated in most jurisdictions and the worker is more likely to exercise the right to refuse unsafe work with union backing. Although the joint committees are

employed in non-unionized settings and in general do not share the adversarial nature of collective bargaining, the two can be mutually reinforcing. If the committee fails to reach a consensus on a particular issue, it can be taken through the grievance procedure. Equally, the committee may provide considerable input into the health and safety provisions established in the contract. Ison (1979, p. 8) points out that, even though legislation provides the right to a worker to refuse hazardous work, it is often unrealistic to expect a worker to confront management single-handed. Union stewards can advise the worker about the reasonableness of the belief that a danger exists and, in some jurisdictions, a work stoppage over health and safety conditions during the term of the contract would not be an illegal strike (e.g., British Columbia).

There are some limitations to the effectiveness of the collective bargaining mechanism in improving workplace health and safety. The union may represent a large group of workers, only some of whom are exposed to hazardous conditions. This is particularly true in an industrial rather than a craft union. In this case the union leadership may find it more propitious to bargain over wages and fringe benefits rather than issues that affect a small proportion of the membership.

However, it has not been argued that collective bargaining should be the sole mechanism to deal with occupational health and safety (as it certainly would be inadequate in isolation). Arguments in support of the collective bargaining process emphasize the complementarity of this mechanism with government regulation and market forces. According to this view, the role of the collective bargaining mechanism is to improve information flows which allow market forces to work more efficiently, to enhance common industry-wide standards through negotiation, and to strengthen the internal responsibility system discussed in the next section on regulation.

## ***Workplace Health and Safety Regulation***

Legislation and the degree of involvement of government agencies in occupational health-and-safety regulation vary across the federal and provincial jurisdictions. There are two aspects to the legislation and its administration: prevention and compensation. Most jurisdictions have been concerned with both these aspects.

The process of industrialization was initially characterized by a shocking absence of concern for the risks and dangers inflicted on the work force. Virtually no attention was paid to the health, safety or sanitary conditions of the workplace. Early factory acts attempted to improve the conditions of employment of the general populace, particularly women and children. They forbade the use of child labour, restricted the types of employment for women, set working hour limits, established health and

sanitation standards, and appointed an inspectorate with powers to enforce the acts' provisions. However, compensation for an injury sustained at the workplace was attainable only through the (common law) tort liability system, where the onus was on the employee to establish that fault rested with the employer. Employers' liability acts, adopted by many provinces between 1886 and 1911, required the employer to insure risks with a private insurance company, but continued to require employees to establish negligence in order to receive compensation. The exception was Quebec which, in 1909, legislated that the worker had the right to no-fault compensation.

Pressure was brought to bear on the provincial governments from two sources to provide public insurance schemes: employers found the idea appealing because it would limit their legal liability and afford protection against court litigation, and labour leaders advocated the scheme to ensure compensation for all workplace victims. In 1914 Ontario established a no-fault social insurance scheme which was the basis for equivalent schemes in other jurisdictions. In return for assured compensation, employees surrendered the right to sue their employers and to collect full damages for injuries, including pain and suffering. These no-fault insurance schemes were administered by workers' compensation boards and funded by employer contributions to an accident fund, with assessments a function of the work injury experience of the industrial rating group. Compensation for illnesses was restricted to a schedule of diseases itemized by the workers' compensation boards. Subsequent amendments to these compensation programs have acknowledged that any disease that is work related should be compensable. However, the burden of establishing the cause of a disease is still on the victim.

Preventive legislation involves the government setting standards for workplace safety, sanitation, ventilation and health, and monitoring compliance. These standards can take the form of specification controls or performance controls. The latter are preferable because they allow the individual employer to choose the least-cost method of achieving a certain performance level rather than imposing the means by which the objective should be attained.<sup>12</sup> However, particularly when dealing with potential disease-generating contaminants, specification standards are probably necessary. Monitoring compliance with these standards is carried out by a factory inspectorate, usually under the auspices of the Ministry of Labour.<sup>13</sup> The scope of the factory inspectorate varies widely from province to province.

Preventive legislation has been amended and expanded by the federal and provincial governments as more information comes to light regarding health and safety issues. Industrial Hygiene Divisions were created in the various health departments in the 1930s and 1940s to assist the existing factory inspectorate and these groups work in tandem with the Workers' Compensation Boards (WCBS) and other organizations

involved with workplace health and safety. In the last two decades in particular, the ever-increasing number of chemicals and other hazardous substances with unknown health effects being introduced into production processes have necessitated on-going research into the ability of existing legislation and institutions to cope with the more insidious problem of industrial disease. Many studies and commissions of inquiry in recent years (the Ontario Royal Commission on Asbestos 1984; the Weiler Task Force 1980, 1983; the Ham Report, 1976; the Gale Report 1974; the Economic Council of Canada, 1981; the Beaudry Report, 1976) have variously identified many of the problems and deficiencies of existing legislation, the inspectorate, the WCBs, and the incentives facing employers whose methods of production generate occupational health and safety hazards.

Legislation regarding workplace health and safety has changed considerably in the last decade. Brown (1982) describes and assesses the existing provisions relating to occupational health-and-safety legislation in each Canadian jurisdiction. Because of the large number of laws and regulations relating to workplace health and safety and the significant differences across provinces, only a skeletal summary can be provided here.<sup>14</sup> Furthermore, even where similar regulations exist, the effectiveness of the provision typically varies from one jurisdiction to another owing to differences in the degree of enforcement and penalties for non-compliance.

Saskatchewan has provided a model which many jurisdictions have adopted, though in a modified form. Its legislation, introduced in 1972, emphasizes the contribution of worker participation to the prevention of workplace injuries and illnesses. This model is now often called the "internal responsibility system." This system confers three rights on employees:

- the right to have joint labour-management health and safety committees;
- the right to refuse hazardous work without penalty;
- the right to information, as it becomes available, about the hazards of employment.

The right to form joint health and safety committees is based on the idea that the cooperation of workers and employers is essential for an improvement in the Canadian work-injury experience. Health and safety committees may be established by law in every province except Prince Edward Island and Nova Scotia. In Alberta, Manitoba and the federal jurisdiction, committees are mandated at the discretion of the minister of labour. In other jurisdictions, a committee must generally be formed if the number employed in a workplace exceeds a certain limit.<sup>15</sup> The internal responsibility system emphasizes the preeminence of the joint committee and relegates the administering agency to a secondary role as a court of appeal when the internal mechanism fails. Most

observers feel that the committee is more likely to be effective if vested with broad powers, such as being able to play an active role in refusal-to-work cases, having the right to accompany an investigating inspector, access to correspondence between the investigating agency and the employer, the right to receive a response from the employer on questions of health and safety, power to shut down offending workplaces, and adequate training in air monitoring and other safety checks. In addition, effectiveness will be increased if worker members are free from discrimination and compensated for time spent on committee business. These powers are legislated in Saskatchewan and to varying degrees in other jurisdictions.

The right to refuse hazardous work is the second element of the internal responsibility system, and all jurisdictions except Prince Edward Island and Nova Scotia provide protection from retaliation when an individual refuses to work on reasonable grounds. The extent of this protection depends on the interpretation of "reasonable grounds," which varies across jurisdictions. The right to refuse hazardous work is fundamental, yet it is important to consider allowing employees to avert this action if they can. Manitoba permits an employee who has a reasonable belief that a hazard may exist to summon a factory inspector to carry out an investigation prior to a work stoppage. This type of provision may avoid a costly work stoppage and allows the employee to allay his fears (or confirm them) and avoid the inconvenience of filing a claim for time not worked.

The third aspect of the internal responsibility system is the right to all information relevant to health and safety in the workplace. The right to form joint committees and the right to refuse unsafe work may have little beneficial effect if employees do not have access to all available information pertaining to hazards at the workplace. However, this right is barely addressed in most of the legislation and, in general, the provisions that do exist are vague and difficult to enforce (Brown, 1982). They also often fail to address information that may be available from a third party — for example, the factory inspectorate or a research institute or a previous employee who has contracted a work-related disease subsequent to his job termination. Many employers argue that if they revealed the exact substances used, this information could be used adversely by competitors or imitators. This problem could be averted if just the types of materials used were revealed, not the proportions of each. Quebec is the only province that requires the employer to record the hazards of employment in writing. Saskatchewan has gone further than the other provinces in detailing specific information that the employer must provide. For example, the employer is required to warn an employee exposed to asbestos dust specifically of the dangers of pneumoconiosis, lung cancer and mesothelioma, and the increased risk of injury from smoking.

It is argued that the internal responsibility system may have more

success in dealing with safety as opposed to health. Regulations and specification standards may be more successful in preventing health hazards. However, the two systems could be integrated more thoroughly. Most disease-generating substances must be carefully monitored so that worker exposure does not exceed certain levels. Legislation will specify the critical exposure levels (given current medical knowledge); for example, the critical number of asbestos fibres per cubic centimeter. The internal responsibility system could bolster the effectiveness of the legislation by ensuring that affected employees have access to, and understanding of, the standards set, and that they exercise their right to refuse to work if exposure levels go above the legislated limits.

While most jurisdictions have adopted aspects of the internal responsibility system, there are important differences in the approach to health and safety. In British Columbia, occupational health and safety issues are consolidated under the Workers' Compensation Board (except for the mining industry). Thus, all aspects of prevention and compensation, including standard-setting, inspections and enforcement, are carried out by the same agency. In Prince Edward Island the Workers' Compensation Board is also responsible for all aspects of prevention and compensation. In other jurisdictions, prevention issues generally fall to a government ministry. The Alberta system, more than other provinces (except Prince Edward Island and Nova Scotia), relies heavily on voluntary compliance and self-enforcement. A limited inspectorate exists and penalties for non-compliance are rarely imposed.

### *The American System*

The American approach to the prevention of workplace hazards relies heavily on legislated specification standards with little emphasis on the internal responsibility system. This reliance on standards, as the means of addressing the problem, is based on the belief that it is the unsafe production processes that cause injuries and illnesses. The Canadian system, in contrast, lays more responsibility on the shoulders of both employees and employers — although, as noted above, standards are also set by government agencies. The Occupational Safety and Health Act of 1970 (OSHA) established mandatory standards to apply to all U.S. workplaces, increasing significantly the role of the federal government in health and safety regulation.<sup>16</sup> Two main criticisms have been directed at the enactment of this legislation since its inception in 1972: the disregard for the costs of achieving a certain standard and the ineffective enforcement mechanism.<sup>17</sup> The mandate has been interpreted to mean that hazards should be reduced to the lowest level technically possible regardless of the costs involved. Economic feasibility would consider the costs of attaining a particular level of safety against the benefits achieved. Disregard for economic efficiency may actually make people

worse off than a complete absence of market intervention. Costs of complying to a technically feasible standard may be so prohibitive as to force a firm or an industry to close down, with the resultant welfare implications. These extremely stringent standards are accompanied by an enforcement mechanism unable to render their compliance. The inspectorate is small and unequipped to monitor the thousands of standards that have been set. Viscusi (1983) reports a case where a cooling tower in West Virginia collapsed killing 51 people; the tower had been inspected in the recent past but the inspector had concentrated on the inadequate scaffolding (which allowed the possibility that tools could fall on workers below) while ignoring the faulty construction technique of the tower. This example indicates the need to focus on the fundamental safety issues and not burden the limited inspectorate with unnecessary and unimportant tasks. When a violation is detected, the financial penalties assessed are usually minuscule when compared with the cost of compliance. The enforcement mechanism does not provide the employer with any incentive to adhere to the legislated standards. Kochan (1980, p. 494) points out that emphasis on standards diverts attention from the goal of reducing accident rates and toward the means of assuring minimum compliance. To the extent that compliance to legislated standards does not ensure that the workplace is optimally safe, this emphasis is misguided.

As mentioned above, this type of standard-setting procedure may be more important in the control of workplace health hazards. Detailed specification standards, identifying threshold exposure levels for dangerous substances, may be the only effective way to combat occupational illnesses. However, Viscusi records that the standards set to deal with toxic and hazardous substances likely to cause diseases and illnesses are few and inadequate. Subsequent amendments to the 1970 act have moved toward improving the coverage of health risks but they have not gone far enough. Earlier, the magnitude of possibly dangerous substances introduced into the U.S. workplace annually was discussed; yet the standards address only a handful of these substances explicitly. Improvements are being made in some aspects: in 1980, the right of an employee to have access to the firm's medical records and exposure levels data was established and more than 20 states have enacted "right-to-know" laws requiring employers to inform workers and community officials about toxic substances being produced or used commercially (Linsenmayer, 1985). However, in other respects the regulation of health risks has not advanced: the right-to-know rule on chemical labeling was not implemented and the use of the "general duty clause" to deal with health hazards not covered by specific Occupational Health and Safety Administration standards has been curtailed (Linsenmayer, 1985). In the view of many analysts the OSHA standards system would be a more credible and effective force in improving workplace health and safety if it

focussed on well-designed flexible standards which took into consideration the costs and benefits to the society it is trying to protect.

Proponents and opponents of government regulation with respect to workplace health and safety have vigorously debated the OSHA approach. A number of empirical studies have examined the impact of the OSHA regulation on workplace hazards. Mitchell (1982) reviews several studies and concludes that “the best available firm-level evidence indicates that current practice has a small negative effect on workplace injuries” (p. 157). Subsequent studies also tend to conclude that OSHA’s impact has been small. Gray (1984) finds no significant effect of OSHA’s program of safety inspections on injury rates. Bartel and Thomas (1985a, 1985b) conclude that OSHA did have a sizeable impact on industrial investment in employee safety and health, and that this increased investment had only a small but statistically significant effect on workplace injuries. As a result, “the costs of OSHA-induced investments overwhelmingly outweighed the benefits” (Bartel and Thomas, 1985b, p. 54).

Given this assessment of the American approach to occupational health and safety, we might expect that trends in work injuries and fatalities in the United States would be less favourable than in Canada, particularly in those provinces which have overhauled their legislation in the last decade. However, the data discussed earlier (see Tables 6-5 and 6-6) do not reflect these different approaches, although the improvement in fatalities in Canada relative to the United States — a decline of 40 percent in the fatality rate in Canada versus 30 percent in the United States over the past decade — is consistent with the hypothesis that the greater reliance on the internal responsibility system has resulted in a relative improvement in Canada. As noted in the discussion of the data, the reliability and comparability of work injury experience internationally is open to question. In addition, much of the Canadian initiative has taken place in recent years and may not have had a full impact on work injury statistics. There is clearly a need for careful study of the impact on performance of the significant changes in occupational health and safety legislation and administration during the past decade.

## Conclusions and Policy Options

Occupational health and safety issues have received increased attention from employers, employees and policy makers since the mid-1970s. There have been significant changes in the legislative framework, especially the increased emphasis on the internal responsibility system. Little appears to be known about the effects of these changes — they may have led to improved performance or they may have had little impact on workplace hazards. The decline in the fatality rate is the most

evident sign of progress. But the Canadian record, in the view of many observers, still leaves much to be desired.

There are several general policy options and issues which warrant detailed scrutiny in the continuing attempt to improve workplace safety and health. These options include expansion and fine-tuning of the internal responsibility system; stronger economic incentives for employers to improve workplace safety and health; data collection and research on the effectiveness of different approaches; and consideration of the problem of industrial disease. Each of these points is discussed in turn.

The adoption of the internal responsibility system as a primary vehicle for addressing concerns about workplace safety and health was one of the key developments in the 1970s. Continued and possibly increased reliance on this mechanism appears to be a strategy favoured by most observers, though it must be emphasized that little is known about the effectiveness of health and safety committees and other elements of the internal responsibility system relative to other possible mechanisms for achieving the same objectives.<sup>18</sup>

Joint health and safety labour-management committees are mandated (in some form or another) in nine of eleven jurisdictions. What follows are some of the main issues related to the strengthening of these committees. If the internal responsibility system is to be highly effective, functional authority should be vested in these committees. They may have only limited efficacy if they are restricted to an advisory role. They could also play an active role in the planning and implementation of changes and additions to the workplace. Building specifications and types of machinery have traditionally been considered as management decisions. However, many workplace hazards are intrinsically linked with the mode of production. The committee's input into plant design could be beneficial to both employer and employees.<sup>19</sup>

Committees could also have the power to arbitrate between a worker and the employer regarding refusals to do a hazardous job, and a committee member should accompany any investigating inspector. Members should be trained in monitoring the workplace environment so they can detect a change in the risks to employees.

The joint committees have a substantial role to play in informing the workforce of the various hazards and rights of workers. The right to information pertaining to the hazardous nature of the job is the most fundamental yet appears to be the least addressed aspect of the internal responsibility system. Lack of information and asymmetry of available information also inhibit the functioning of market forces. More specific management disclosure requirements are evidently needed. Employees and their representatives should have access to third-party information about the dangers of the job — whether the third-party is a research agency or a previous employee. Another aspect of information provision

arises when a substitute is required to replace a worker who has exercised the right to refuse unsafe work. The substitute should be informed of the earlier refusal. Brown (1983, p. 8) proposes a temporary law against substituting a second worker until an investigation has been carried out.

The Manitoba provision that allows a worker who has reasonable belief that a hazard exists to summon an investigating inspector prior to a work refusal appears to be attractive. This provision will settle a worker's doubts without the costs of a work refusal (if the fear turns out to be unfounded). The requirement that a member of the health and safety committee initiate the inspection or other mechanisms could be employed to deter frivolous complaints.

The strengthening of the internal responsibility system is one way to increase the costs to employers of an unsafe work environment, as well as raise the level of awareness of safety issues for both management and workers. In addition, there is a need for stronger economic incentives for job safety through more complete experience rating of workers' compensation premiums.<sup>20</sup> The present system is not fully experience-rated so that a firm with a particularly poor record passes this liability on to all other firms in the industry group and bears only a fraction of the increased compensation payments for which it is responsible. Experience rating is important for two reasons. Fundamentally, it strengthens the incentive for employers to prevent workplace accidents. For this reason, experience rating on an individual firm basis is preferred. It also ensures that the price of a product reflects the social cost associated with a hazardous work environment. Employers may object that they cannot afford the higher costs associated with more complete experience rating. Ultimately, however, these costs will be reflected in higher prices to the consumers of the product. From society's point of view, as explained earlier, it is important that the price of a product reflect the risk associated with its production.

Penalties for non-compliance are another important aspect of incentives. If penalty assessments are low, there will be a tendency for firms to ignore the regulations and pay the fines if caught, an option with lower expected costs than complying with the regulations. Viscusi (1983) has noted this tendency in the United States.

The role of government in the continual revision of legislation and standards as new evidence comes into light is critical in the area of industrial disease. Whereas economic incentives and other mechanisms may be more adept at dealing with industrial safety, occupational health problems appear to be controlled most effectively by standards. These standards must be promulgated taking into account economic feasibility as well as technical feasibility. This calls for the introduction of more general economic impact or cost benefit studies of proposed legislation. Much can be learned from the United States experience with many

unnecessary bureaucratic, legal and administrative costs. These health standards may be developed most practicably under the auspices of the Canadian Centre for Occupational Health and Safety with direct input from the provincial agencies.

Adequate data collection and research are required to assess the impact of new hazards, particularly disease-generating chemicals, and the impact of changes in legislation and its enforcement. The past decade has seen considerable change in public policy relating to occupational health and safety. In addition, there is considerable diversity in the policy initiatives taken in various jurisdictions. Yet very little is known about the effects of these policy changes, or which of the various approaches has proved most successful. Simply stated, we do not know whether the benefits to society of the changes in legislation and its administration made during the past decade exceed the costs — or, indeed, whether there have been any social benefits. This situation is likely to continue unless more effort is devoted to the compilation of statistics which would facilitate interprovincial and international comparisons and other research. The available data are inadequate, given the importance of occupational health and safety.

There is increasing recognition that workers' compensation is fundamentally injury oriented. The long development periods and multiple causes of many diseases pose an insoluble problem for workers' compensation boards, which attempt to compensate workers for illnesses or injuries sustained "out of and in the course of employment." The present system is unable to accommodate the fact that many seriously disabling diseases have multiple causes. Various cancers, for example, are the product of many factors operating at different stages in the development of the disease. Epidemiological studies and evidence of exposure may demonstrate the presence of carcinogens in the workplace, but they fail to determine whether a particular employee has acquired the disease as a result of employment conditions or as a consequence of personal habits or a toxic environment. As stated by Weiler (1983, p. 55): "The statutory hurdle of establishing that the workplace was the cause of a disease is equally as onerous as was the common law requirement of proof that the employer's fault produced an accident." The latter obligation was removed by the introduction of workers' compensation/no-fault insurance, and the problem of compensating victims of industrial disease may not be resolved without introducing a general social insurance/disability scheme which would compensate victims irrespective of source of injury. Certainly, proposed modifications of the current system of compensation do little to increase the ability of the workers' compensation boards to determine which disease-related claims are legitimately occupational in nature.

One solution to this problem would be to expand substantially the current disability benefits provided under the Canada Pension Plan, as

proposed, for example, in the federal government's 1982 discussion paper *Better Pensions for Canadians*. An alternative solution would be to absorb the existing workers' compensation system into a comprehensive disability insurance scheme, as has been suggested by Weiler (1983) in his examination of the Ontario system. Although it is beyond the scope of this paper to consider these options in detail, the federal and provincial governments will need to examine these and other options for dealing with industrial disease.

## Notes

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1. Furthermore, the costs to society of a given quantity of time lost due to workplace injuries or illnesses probably exceeds that due to strikes and lockouts. In both instances there is a loss of output due to unutilized labour and other resources. In the case of workplace injury there are the additional costs associated with the injury or illness. However, some factors work in the other direction. Working time lost due to strikes or lockouts is more concentrated in time, which may impose additional costs on the employer and the consumers of the good or service.
2. A disabling injury is defined as any work injury (including a fatality and occupational illness) that prevents an employee from reporting for work or effectively performing all of the duties connected with his/her regular work on any day subsequent to the day on which the injury occurred whether or not that day was a holiday or other non-working day; or results in the loss by an employee of a body member or part thereof or in a complete loss of its usefulness or in the permanent impairment of a body function whether or not the employee is prevented from reporting for work or effectively performing his/her regular work. A non-disabling injury is a minor injury for which medical aid was provided and that was not a disabling injury.
3. The private sector fatality rate is a weighted average of the fatality rates of each industry where the weights are the fraction of total employment in each industry. If the 1982 industry fatality rates are weighted by the 1972 employment fractions, the measure is an estimate of what the fatality rate in 1982 would have been if the distribution of employment among industries had remained constant at its 1972 level. The contribution of the changing structure of industrial employment to the fatality-rate reduction turns out to be just over 10 percent.
4. Because the Canadian (U.S.) data include (exclude) the public sector, the rates are not directly comparable. However, this factor should bias the Canadian rate downwards as there are relatively few injuries in the public sector.
5. The correlation coefficients between the injury and fatality rates by industry are 0.39 and 0.51 for 1974 and 1979, respectively.
6. Compensating wage differentials provide for ex ante compensation for those workers willing to work in hazardous industries. The market mechanism does not ensure ex post horizontal equity because only a proportion of those who receive wage premiums are actually injured. Workers' Compensation insurance schemes attempt to redress this problem by providing no-fault compensation payments to workers who are injured on the job. However, these payments are incomplete, merely providing income replacement but not the psychic costs of pain or suffering or permanent disfigurement. Because these schemes are imperfect, compensating wage differentials are required ex ante for workers in hazardous industries. The more complete the ex post compensation, the smaller the compensating wage differential in labour market equilibrium.

7. Throughout this discussion, we refer to wages as the sole form of compensation. Obviously the arguments generalize to include other types. The role of fringe benefits is discussed further below.
8. This may result from workers in hazardous industries receiving higher wages than workers with the same occupation in less hazardous industries.
9. Duncan and Stafford (1980) find that the pace of work is significantly higher in unionized firms.
10. Particularly in the case of occupational diseases, determination of the level of risk may not be possible even with comprehensive epidemiological studies and research. This point is discussed in more detail later in this paper.
11. However, Ison (1978) argues that plant design and selection of materials will have an impact on the level of workplace health (as opposed to safety). Given that occupational diseases generally do not appear for many years after their contraction, management has little incentive to bargain over these rights with the union.
12. One of the major criticisms of the U.S. legislation in this area is the huge number of detailed specification standards which, even if desirable, could never be properly enforced.
13. In Quebec, monitoring and enforcement rests with the Commission de la santé et de la sécurité du travail. In British Columbia, the Workers' Compensation Board deals with prevention as well as compensation.
14. Canada, Department of Labour (1984) lists the various statutes relating to occupational health and safety in Canada. During the 1970s most jurisdictions passed comprehensive health and safety acts covering the entire workforce; these are detailed in Brown (1982).
15. See Ilgen (1985, Table 1) for a summary of legislative provisions regarding joint committees in the 11 jurisdictions, and Brown (1982) for a more detailed review.
16. As in Canada, workers' compensation laws focus mainly on compensation for injuries and illness. Workers' compensation programs operate under state laws. However, the Occupational Health and Safety Act also created the National Commission on State Workmen's Compensation Laws to investigate these programs to determine if workers were receiving adequate, prompt and equitable compensation for injuries and diseases. The recommendations of this commission resulted in very significant increases in benefits in most states (Worrell and Appel, 1985).
17. For a discussion of these and other criticisms of the OHSA see Smith (1976) Mendeloff (1979) and Viscussi (1983).
18. A U.S. study by Kochan, Lipsky and Dyer (1976) found considerable variation in the "success" of these committees. "Success" was measured by continued interaction and by the number of recommendations coming from the committee. Some committees began with considerable activity and enthusiasm, but faded after an initial set of workplace changes had been made. This may, of course, reflect a calculated assessment on the part of committee members that continued activity had costs that exceeded benefits. In this regard, it would be useful to know the extent to which continued interaction pays off in permanently higher safety levels.

Overall, the study concluded that joint committees have considerable potential for monitoring safety and health conditions and proposing ideas for improving the work environment, but that considerable effort is required on the part of both parties to keep them operating actively.
19. A recent meeting of safety and health experts sponsored by the International Labor Organization (see Linsenmayer, 1985) concluded that new technologies — such as robots, computers, video display terminals — can contribute to a reduction in workplace hazards if safety, health and work organization factors are taken into account in the design and development stage. Employee involvement in the planning and introduction of new technologies was recommended.
20. Experience rating on an individual firm basis was recommended by Weiler (1980) in his report to the Ontario minister of labour, and has recently been introduced on an experimental basis in the forest products industry in that province.

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